Vanishing Culture

Vanishing Culture:

A Report on Our Fragile Cultural Record

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These essays have been formatted for print and are reprinted from the original report published in 2024.

Prologue

October 17, 2024

In the final days of preparing this report, the Internet Archive was hit with a Distributed Denial of Service (DDoS) attack, taking its services offline before recovering in a provisional manner four days later.[i] While the Internet Archive has experienced threats before,[ii] this attack underscores a new and alarming trend—cyberattacks on libraries and memory institutions. The Internet Archive is not alone in facing these threats; libraries like the British Library[iii] and Seattle Public Library[iv] have also been subject to similar disruptions, with Calgary Public Library[v] experiencing an attack that closed its physical locations at the same time as the one that took the Internet Archive offline. Each incident presents a unique danger to the digital infrastructure preserving our culture. These threats are evolving—not just blocking access, but threatening the very systems that secure the preservation of knowledge—which highlights a new frontier in the battle for cultural preservation.

The implications of a library losing access to its digital collections, even temporarily, are profound. The public often takes for granted the availability of digital resources, expecting them to be accessible with only a click. But what happens when that access

is severed? When a library goes offline, it doesn't just interrupt research; it stifles educational progress, halts public access to information, and, in a new and chilling way, creates gaps in the public memory. One user on social media platform X summed up the timing of the DDoS attack against the Internet Archive well:

"of all times, of all sites, y'all chose to hack The Internet Archive during a massive hurricane, wars, and the 2024 U.S. election "

- @DynamoSuperX,[vi] October 10, 2024.

As we increasingly rely on digital archives to preserve our shared cultural heritage, any interruption in access reminds us of the fragility of our digital landscape. Given these growing threats, it is clear that more research is needed to better understand how to protect digital libraries. The timing of the DDoS attack and the release of this report provide an opportunity—perhaps an uncomfortable one—to reflect on the precarious nature of digital archives and their role in preserving our vanishing culture.

Chris Freeland

Director of Library Services,
Internet Archive

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i ■ Tom Warren, "The Internet Archive is back as a read-only service after

cyberattacks," *The Verge*, October 14, 2024.

ii ■ Chris Freeland, "Internet Archive and the Wayback Machine under DDoS cyber-attack," *Internet Archive Blog*, May 28, 2024.

iii ■ See "Cyber-attack update" at the British Library.

iv ■ Kate Perez, "Seattle Public Library still reeling from May cyberattack," *The Seattle Times*, August 6, 2024.

v ■ CBC News, "Cybersecurity breach at Calgary Public Library forces closure of locations across the city," CBC, October 11, 2024.

vi ■ See post from DynamoSuperX on X, October 10, 2024.

Preface

Corporate interests, alongside changes in media distribution, are eroding the public's ability to construct and access its own cultural record. As more digital content is being provided to individuals, libraries, and archives solely through streaming and temporary licensing deals, rather than through permanent ownership, cultural objects such as sound recordings, books, television shows, and films are at constant risk of being removed from platforms without ever being archived. This means that cultural expression is vanishing from public access largely at the whims of media conglomerates. *Vanishing Culture: A Report on Our Fragile Cultural Record* seeks to inform the public, creators, institutions, and policymakers about the breadth and scale of cultural vanishing by highlighting recent instances of loss, identifying key causes of these losses, and showing why empowering public-serving libraries and archives financially, culturally, and legally is a necessity for ensuring that our cultural record remains built by the public, and accessible to it for generations to come.

The report is split into two parts. Part one, "Media Preservation and the Production of Public Memory" introduces the problems posed to cultural longevity by the turn away from ownership and toward platforms, licensing, and streaming. It surveys recent data-driven studies of web and software loss by the Pew Research Center and the Software Preservation Network respectively, accompanied by new data reports on materials preserved by the Internet Archive's Wayback Machine and Software Library. It then discusses longer histories of cultural loss in the film and music

industries, before concluding with an overview of what individuals can do to help create a long-term, publicly accessible media and information ecosystem. Librarians, lawyers, and related advocates have read and provided feedback on this part through community review.

More research is needed to fully quantify the extent of vanishing from our library shelves, from the open web, and from platforms such as Spotify, Amazon, and Netflix. As such, part one does not attempt to be a comprehensive index of everything that has disappeared from public access thus far. Rather, it is a humanist's perspective on the problem of vanishing culture, the goals of which are to offer a critical framework for understanding the fragility of today's media environment, to identify recent forays into quantifying digital loss, and to provide resources to readers so that they may autonomously explore the problems discussed here in relation to the media they love elsewhere. If readers go on to discover and advocate for media ownership and niche copyright reforms, if they seek out and support public-serving libraries and archives, or if they start their own open access community archive so as to ensure that their communities are represented in history—then in the mind of the author, this report will have been a success.

Part two, "Narratives of Cultural Preservation and Loss," presents short essays by scholars, preservationists, and advocates, which explain why preservation matters for specific media and content. From women's labor histories in the form of cookbooks (Katie Livingston), knitting punch cards (Nichole Misako Nomura), and social media posts (Amanda Gray Rendón), to stories of forgotten books (Brad Bigelow), educational filmstrips (Mark O'Brien), and television news (Claire Wardle), these accounts demonstrate how loss permeates every medium and historical moment, and how it is only through intentional acts of preservation that historically significant culture and information will be remembered.

Collaboratively, *Vanishing Culture* begins to tell a story of what happens when media ownership disappears, why preservation

and access matters for the public good, and what needs to change so that our physical and digital heritage is not needlessly forgotten.

Part 1:

Media Preservation and the Production of Public Memory

Luca Messarra

Public Humanities Fellow,
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“Look at this [pocketwatch]. It’s worthless. Ten dollars from a vendor in the street. But I take it, I bury it in the sand for a thousand years, it becomes priceless.„

- René Belloq, *Raiders of the Lost Ark*[4]

“There is no digital equivalent to that decades-old pile of *Life* or *National Geographic* magazines in the basement or attic. Changes in computing technology will ensure that over relatively short periods of time, both the media and the technical format of old digital materials will become unusable. Keeping digital resources for use by future generations will require conscious effort and continual investment.„

- Dale Flecker, *Harvard University Library*[5]

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4 ■ Steven Spielberg, dir. *Raiders of the Lost Ark.* Paramount Pictures, 1981.

5 ■ Dale Flecker, “Preserving Digital Periodicals,” in Appendices: Preserving Our Digital Heritage: Plan for the National Digital Information Infrastructure and Preservation Program (Library of Congress, 2002), 26.

I. The Digital Memory Hole

The long history of hardware, software, and media obsolescence, from the papyrus scroll to the Commodore 64, tells us that if archivists and librarians do not actively collect and preserve cultural materials, then they risk being forever lost in the sands of time. Unlike Belloq's hypothetical watch in the sand, digital culture[6] is valuable *now*, and is vanishing from public access at an alarming rate: social media posts are deleted by censors and malicious agents seeking to erase political history;[7] culturally significant journalism such as MTV News,[8] alongside music,[9] films,[10] and television shows,[11] are abruptly taken offline by media conglomerates without explanation; and landmark video games created for old hardware fade from our memory under restrictive and lengthy copyright terms.[12] Furthermore, analog materials such as VHS tapes, 78rpm recordings, and filmstrips are deteriorating moment by moment, and require urgent attention to ensure their survival.

"Historical oblivion is the default, not the exception" to the human record, writes game designer Jordan Mechner in his contribution to this report.[13] Be it natural elements like fire or water, negligent or intentional people, or simple forgetfulness, practically all human expression will disappear or change without human intervention. Only through acts of repair and digitization will materials such as a grandmother's cookbook, a groundbreaking game ahead of its time, or endangered languages continue to survive, and only through access will their survival prove meaningful to the next generation. In response to the risk of materials falling into oblivion, humanity has built libraries and archives big and small, and developed rigorous preservation practices, so that the past need

not be so easily lost. These institutions have not always collected fairly, nor have they always been accessible.[14] Yet now more than ever, with the help of dedicated individuals and communities, these institutions seek to ethically collect and preserve culture broadly. They also offer digital lending programs, so that anyone in the world with an internet connection can enjoy and learn from the past, not just those with the means to visit a physical location.

But as rights holders increasingly opt for provisional access by way of streaming platforms and temporary licenses, culture is vanishing from public access without any indication that it will return. These distribution methods inhibit the critical ability of individuals and institutions to own, and therefore preserve their historical record, placing public memory in the hands of media conglomerates and their interests. The absence of ownership not only erodes the public's ability to enjoy, learn from, and collaboratively build their own diverse cultural history: it creates an information ecosystem where history can be seamlessly rewritten by revising and deleting public information and popular content.

How Did We Get Here ?

Corporate interests interfering with the library mission—that is, preserving and making culture accessible to the public—is far from new. Historically, legal protections for crucial library services such as interlibrary loan, electronic reserves for students, photocopying, and reformatting exceptions for patrons with print disabilities, were only secured after publishers attempted (and failed) to challenge these practices in court.[15] As copyright experts Kyle Courtney and Juliya Ziskina wrote in 2023: "The historical conflict between libraries and publishers reveals a predictable pattern. Libraries are fast to adopt new ways of providing greater access to knowledge to their patrons. Publishers react by obstructing libraries' efforts."[16]

Public-serving libraries and archives in the United States came of age and acquired their legal protections over the nineteenth and

twentieth centuries, a media environment dominated by print books. The book is a marvel of human engineering: it is sturdy, portable, and easy to mass reproduce; it remains among the best long term data storage media ever created. We have bound works of ink on parchment that are over a thousand years old, whose data remains nearly as parsable as the day it was first inscribed. Left alone in a temperature-controlled room, a book made today will remain usable for hundreds of years.[17] Cumulatively, these assumptions about book longevity and distribution have informed the way the public and lawmakers generally think about the work that libraries do: putting books on shelves, lending them out, and applying archival adhesive and book tape as needed.

But we no longer live in a print-dominant world. Libraries and archives collect and preserve television broadcasts, films, oral history recordings, ebooks, web pages, social media posts, and more. Yet, anyone who has ever tried to use a floppy disk lately—or who has discovered that their favorite meme has disappeared from Tumblr or TikTok (or that their favorite platform has all together shut down like Vine in 2017)—knows that digital materials tend to become obsolete, disappear, and physically decay far faster than books on bookshelves.[18] As Dale Flecker, former Associate Director for Planning and Systems at Harvard University Library describes, the constantly evolving nature of software and hardware creates a media environment in perpetual need of “conscious effort and continual investment” so as to remain publicly accessible. That effort and investment is the sort of labor-intensive and unprofitable work that caring individuals and public-serving institutions have long demonstrated a willingness to do, even when there is no clear economic gain in the act of preservation.

“I left YouTube for a while in 2022, when Scholastic, one of the largest children’s book publishers on earth, tried to get my channel deleted. Turns out they bought the assets of a defunct filmstrip publisher whose work I was trying to save. So not only had no

one preserved these things, but a corporation hoarding bankruptcy assets now threatened the very point of preservation in the first place: making history available for viewing. „

- Mark O'Brien, "On Filmstrips"

As the next section of this report will show, publishers across all media have demonstrated time after time that they will not preserve or make their publications commercially available when there is no economic incentive to do so. Worse, they will use the law to shut down non-commercial preservation and accessibility efforts that seek to extend the life of cultural materials.[19] Those activities, unfortunately, make perfect sense for businesses beholden to shareholder interests. After all, the fundamental principle of a large publisher seeking profit and growth is to keep costs as low as possible while keeping sales as high as possible. It is entirely logical for publishers to abandon publications when the economic incentive to continue distributing and preserving them is gone. Further, it makes business sense for rights holders to retain their long copyrights—now lasting the life of the author plus seventy years, or ninety-five years in the case of works made for hire—in the event that a reissue may one day turn out profitable.[20]

Preserving and making works accessible within a profit-motivated distribution paradigm was manageable for libraries as long as human expression was predominantly published in book form. Over the twentieth century, the law empowered libraries to purchase, lend, and repair books so that they could be made available long after publishers decided to stop distributing them. These laws created a shaky balance between corporate and public interests in cultural preservation: publishers could cease book production whenever they saw fit, and libraries would do the work of collecting and preserving books for future generations, allowing the public to reevaluate the continued preservation of

these works in a different historical moment. This balance, predicated upon media ownership, not only benefited the public by giving them access to old works, it also relieved publishers from the burden of keeping authors' works in-print, allowing publishers to focus on bringing new books to life, and giving less commercially successful authors the chance to continue being read.[21]

Opportunities for ownership across all media rapidly decreased over the course of the 2010s as digital content increasingly became distributed through streaming platforms alone, and as publishers moved toward subscription-based licensing deals for libraries.[22] These changes in distribution have heavily shifted the balance of cultural posterity in favor of publishers. Juliya Ziskina details the crux of this issue, particularly in the case of ebook licensing, as such:

> The shift from ownership toward licensing opened the door to the substitution of statutory property rights (such as the right to acquire, use, and dispose of property), replacing them with unilateral contract terms. As a result of this shift, publishers and platforms now routinely attempt to assert control over almost all library activities related to ebooks, including how, where, when, and to whom they can be shared.[23]

Instead of owning copies of digital materials, individuals and public-serving institutions now pay for temporary and conditional access to digital content. Even when consumers hit 'buy' on their favorite platform, what they are most often buying is a limited right to stream that content—using only the publisher's software of choice—with the caveat that the content can be removed or changed at any time.[24] While streaming may offer convenience for consumers in the present who do not want to buy physical media, it poses much larger problems for the sustainability and possibility of a cultural record built by public interests.[25]

“I can repeat a row as many times as I wish. I can change whether my machine ignores the 1s, knits the 1s, purls the 1s, etc. I can perform subsequent operations on the punch card’s outputs with manual manipulation. And I own it. I own my knitting machine, can take it apart and repair it without violating some terms of service, and can hack and modify it and my punch cards to my heart’s content. ”

- Nichole Misako Nomura, “Punch Card Knitting”

To summarize a few of these problems, specifically around ebooks:[26] proprietary file formats and DRM, coupled with the Big Five publishing houses’ partnerships with Apple and Amazon, create ebook monopolies and monopsonies, locking readers into viewing books on their platforms, and preventing readers from engaging in the time-honored tradition of casually lending a good book to a good friend;[27] those platforms pose data privacy issues to consumers by forcing them to view books using software that mines and potentially sells their data.[28] Additionally, publishers offer temporary licenses to libraries (which often cost more than the physical books themselves), forcing libraries with limited funds to make difficult decisions about what content they are willing to acquire and for how long;[29] and in peak Orwellian fashion, publishers have retroactively applied changes to and deleted already-purchased ebooks.[30]

“In many instances, these important auxiliary texts are out of print, which means access via the Internet Archive is the best way scholars not located in the West might ever be able to access them […] With the recent ruling in the publishers’ lawsuit, I fear researchers, journalists, writers and other people on

or from the African continent who investigate and curate knowledge for the public have lost a valuable tool for countering false narratives. „

- Helen Nde (interviewed by Caralee Adams), “Preserving African Folktales: Interview with Laura Gibbs and Helen Nde"

Perhaps above all is a concern for an equitable historical record: when the sole means of accessing culture is through licensing, we leave our cultural memory at the whim of corporate and shareholder interests, who have not hesitated to ax creators and communities from the record when they see no financial gain in their continued availability. Today’s distribution practices fail the public, from which the title of “publisher” derives its name. The word “publish” comes from the Latin “publicare,” meaning “to show or tell to the people, to impart to the public, make public or common.”[31] In the absence of sustained public access, *public*-ation is a misnomer for works distributed in the platform era. What were once publishers might now be more appropriately called data brokers, whose interest is in maximizing profit by limiting public access and collecting user data.[32]

Indeed, the profitable datafication of cultural consumption has already taken over the connected television (CTV) industry (e.g. smart TVs like the Roku TV and its supported streaming platforms) at the expense of individual privacy. In an October 2024 report published by the Center for Digital Democracy titled *How TV Watches Us: Commercial Surveillance in the Streaming Era*, Jeff Chester, executive director at the Center for Digital Democracy, and Kathryn C. Montgomery, Professor Emerita at American University’s School of Communication, detail how “CTV networks and programming services have built far-reaching operations and partnerships to maximize the harvesting of data in order to serve the interests of advertisers.”[33] The absence of sufficient government regulations against data collection and the inability for consumers to adequately opt-out of this collection,

along with personalized advertising on connected television through the use of generative artificial intelligence, lead the pair to resolutely declare that “advertising and data collection are now the driving force in the connected television industry, shaping all of its operations, influencing its program offerings, and spawning a new generation of channels.”[34] Chester and Montgomery’s report identifies powerful industries, such as the pharmaceutical and food and beverage industries (alongside various political groups), who have significant interests in this consumer data, and who use it to generate hyper-targeted advertisements.[35] The surveillance threat posed by these televisions is so significant that Chester and Montgomery describe the purchasing of a smart TV as “akin to bringing a digital Trojan Horse into one’s home.”[36] Unfortunately, these smart TVs, and streaming in general, have become the “dominant way that people get television in the U.S.”[37] Because of the monopolistic dominance of streaming giants like Netflix and Disney, alongside massive TV manufacturers like Roku, Samsung, and LG, anyone wanting to view the most popular contemporary cultural productions (or even the daily news) on connected television must also subject themselves to an intrusive data collection and advertising regime.

Publishing proper—that is, public distribution by way of digital ownership and physical media—allows the public the chance to build and preserve their own cultural records beyond corporate and government control, and in some instances, even beyond the control of large public-serving archives.[38] For example, VHS and DVD distributions historically allowed ‘cult followings’ to emerge around unorthodox films like *Dazed and Confused, Donnie Darko, and Fight Club*, causing these films to be critically reevaluated as culturally significant long after they originally flopped at the box office.[39] That same process of an independent and passionate public keeping subcultural expression alive cannot happen with media that the public cannot own. Without physical distribution or digital ownership for individuals and libraries, digital content such as ebooks and audiobooks, streaming-only music, film, television shows, online news, licensed software, and more can completely disappear when licenses expire and when publishers decide that it is no longer profitable (economically and ideologically) to keep

that content online.[40] And although content taken offline *might* exist in a publisher's private archive, there is no guarantee that it will ever be available to the public again.[41]

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6 ▪ "Culture" is broadly defined in this report as any publicly disseminated human creation.

7 ▪ See e.g. PolitiTweet for an archive of deleted tweets by public figures and organizations. The Library of Congress previously archived all public tweets from 2006-2017, but has since transitioned to a "very selective" collecting protocol. See Laurel Wamsley, "Library Of Congress Will No Longer Archive Every Tweet," *NPR*, December 26, 2017.

8 ▪ Todd Sprangler, "MTV News Website Goes Dark, Archives Pulled Offline," *Variety*, June 24, 2024.

9 ▪ Ari Herstand, "Takedown Fails: Artists Are Seeing Their Music Removed From DSPs for Streaming Fraud They Didn't Commit," *Variety*, April 9, 2024.

10 ▪ Zach Schonfeld, "Beware Hollywood's digital demolition: it's as if your favourite films and TV shows never existed," *The Guardian*, October 1, 2024.

11 ▪ Brad Adgate, "Warner Bros. Discovery Shuts Down Cartoon Network Website," *Forbes*, August 12, 2024.

12 ▪ *Techdirt* frequently publishes on copyright inhibiting video game reissuing. See e.g. Timothy Geigner, "Copyright Self Censorship Denies Us Another Updated Version Of An Abandoned Game," *Techdirt*," *Techdirt*, July 27, 2023.

13 ▪ Jordan Mechner, "Preserving Gaming History," in *Vanishing Culture: A Report on Our Fragile Cultural Record*, ed. Luca Messarra, Chris Freeland, and Juliya Ziskina (Internet Archive, 2026).

14 ▪ See Andrew Pettegree and Arthur der Weduwen, *The Library: A Fragile History* (Basic Books, 2021) for an in-depth history of libraries.

15 ▪ For a systematic overview of these obstructions, see Kyle Courtney and

Juliya Ziskina, "The Publisher Playbook: A Brief History of the Publishing Industry's Obstruction of the Library Mission," *HCA Scholarly Articles* (2023). Pre-print.

16 ■ Courtney and Ziskina, "The Publisher Playbook," 21.

17 ■ "The Deterioration and Preservation of Paper: Some Essential Facts," *Library of Congress*.

18 ■ For more on Vine, see Casey Newton, "Why Vine Died," *The Verge*, October 28, 2016. Notably, Twitter had created a Vine archive in 2017 so that users could browse old content. That archive was taken down in 2019.

19 ■ For discussions of recent lawsuits against the Internet Archive, see Maria Bustillos, "Publishers Are Taking the Internet to Court," *The Nation*, September 10, 2020 and Kate Knibbs, "The Internet Archive's Fight to Save Itself," *Wired*, September 27, 2024.

20 ■ For a robust discussion of how copyright facilitates cultural vanishing, see Mark A. Lemley, "Disappearing Content," *Boston University Law Review* 101, no. 4 (2021).

21 ■ Despite the benefits given to authors by this balance, publishers have routinely attempted to control what readers and institutions do with publications after first sale. See Sarah Lamdan et al., "From Physical Book Sales to Ebook Licensing – An Opportunity for Publishers to Achieve Long-Held Goals" in *The Anti-Ownership Ebook Economy: How Publishers and Platforms Have Reshaped the Way We Read in the Digital Age* (Engelberg Center on Innovation Law & Policy, 2023) for the long legal history of the first sale doctrine, which codified the right for libraries to lend books.

22 ■ Libraries used to be able to buy perpetual licenses for ebooks from the Big Five publishers, but by 2020, all five of these publishers moved over to limited licenses. Sarah Lamdan et al., *The Anti-Ownership Ebook Economy*, 31.

23 ■ Juliya Ziskina, *Toward a New Access Paradigm: Digital Ownership for Libraries and the Public* (Library Futures, 2023), 2.

24 ■ See Aaron Perzanowski and Jason Schultz, *The End of Ownership: Personal Property in the Digital Economy* (MIT Press, 2016), particularly chapter five, "The 'Buy Now' Lie," for a rigorous critique of the lack of

ownership opportunities in today's digital economy.

25 ■ The ramifications of the licensing problem are too vast and complex to be discussed here. Fortunately, the literature on licensing's effects on individual consumers, creators, and public-serving institutions is equally extensive. From the point of view of consumers, see Perzanowski and Schultz, *The End of Ownership: Personal Property in the Digital Economy*. For an emphasis on creators and more, see Glyn Moody, *Walled Culture: How Big Content Uses Technology and the Law to Lock Down Culture and Keep Creators Poor* (BTF Press, 2022). For a technical overview from the point of view of libraries, including details about the different licensing agreements the Big Five book publishers offer to libraries, see Rachel Noorda and Kathi Inman Berens, *Digital Public Library Ecosystem 2023* (ALA, 2023). Lastly, Lila Bailey and Michael Menna have surveyed librarians' perspectives on these issues in *Securing Digital Rights For Libraries: Towards an Affirmative Policy Agenda for a Better Internet* (Internet Archive, 2022).

26 ■ Ebooks are centered in this discussion in part because librarians and their advocates have made significant efforts to make transparent and critique this particular transformation in book publishing and access. More research is needed on sound and image distribution, but these industries are notoriously more difficult to research because of corporate obstruction. See e.g. Meredith Rose, *Streaming in the Dark: Where Music Listeners' Money Goes—and Doesn't* (Public Knowledge, 2023) for a particular emphasis on the "information asymmetries" within the music streaming industry that inhibit research and disadvantage artists and consumers.

27 ■ See "Digital Rights Management Technology Creates Lock-In" in Lamdan et al., *The Anti-Ownership Ebook Economy*.

28 ■ For a discussion of Amazon's data tracking of Kindle users, see Kari Paul, ";'They know us better than we know ourselves': how Amazon tracked my last two years of reading" *The Guardian*, February 3, 2020. See also Library Freedom's "Vendor Privacy Scorecard" for an evaluation of major ebook vendors' data privacy practices. Lastly, see Defective by Design's "DRM Frequently Asked Questions" for an introduction to DRM.

29 ■ See e.g. Susan Haigh, "Libraries struggle to afford the demand for e-books and seek new state laws in fight with publishers," *Associated Press*, last updated March 12, 2024.

30 ■ Roald Dahl, R.L. Stine, and Agatha Christie are just some of the authors who have had their works retroactively changed after being 'purchased' by

consumers. See Reggie Ugwu, "It's Their Content, You're Just Licensing it," *The New York Times*, April 4, 2023.

31 ■ For these uses, see the entry for "publico" in Charlton T. Lewis and Charles Short, *A Latin Dictionary* (Clarendon Press, 1879).

32 ■ For a historical overview on the rise of platforms, see Nick Srnicek, *Platform Capitalism* (Polity Press, 2016). See also Rebecca Giblin and Cory Doctorow's *Chokepoint Capitalism* (Beacon Press, 2023) for a wider critique of the "chokepoints" in capitalism which enable corporate monopolies and monopsonies like Google, Amazon, and Apple, to strangle competition through and beyond platforms. Lastly, see Sarah Lamdan, *Data Cartels: The Companies that Control and Monopolize Our Information* (Stanford University Press, 2022) for a larger critique of "data brokers."

33 ■ Jeff Chester and Kathryn C. Montgomery, *How TV Watches Us: Commercial Surveillance in the Streaming Era* (Center for Digital Democracy, 2024), 6.

34 ■ Chester and Montgomery, 6.

35 ■ See Chester and Montgomery, 26-7 for a discussion of the pharmaceutical and food and beverage industries' interests in connected television data and advertising.

36 ■ Chester and Montgomery, 24.

37 ■ Chester and Montgomery, 5.

38 ■ See e.g. Mark O'Brien's contribution to this report, "On Filmstrips" for a discussion of non-institutional preservation efforts.

39 ■ For a discussion of these films and others, see Emily Barker, "13 box office flops that became hugely successful on DVD," *NME*, October 21, 2015.

40 ■ For a succinct explanation of how licensing issues cause streaming content to disappear from public access, see Sarah Whitten and Lillian Rizzo, "Streaming services are removing tons of movies and shows — it's not personal, it's strictly business," CNBC, May 29, 2023. Note that publishers do not go around publicizing how much of their content is no longer available. Third-party sites frequently document these removals, see e.g. Roger Palmer,

“What’s Leaving Hulu & Hulu On Disney+ In September 2024,” What’s on Disney Plus, August 19, 2024 and Kasey Moore, “Every Netflix Original Series and Movie Removed from Netflix,” *What’s on Netflix*, July 26, 2024. More quantitative research is needed to understand the extent of these losses.

41 ■ Film, television, and new media scholar Mikhail Skoptsov argues in a Substack post titled “Why Removed HBO Max Originals Return in Other Formats” that media scholars ought to approach the issue of cultural ‘loss’ from the point of cultural reissuing. Surveying HBO Max Originals removed from the platform from July 2022 to October 2023. Skoptsov found that of the forty-eight Originals removed from the platform, thirty of them (62.5%) had been reissued either on a different streaming platform or in a different format. Nevertheless, eighteen of the shows remained unavailable, and there is no certainty that these Originals will stay on their different platforms for long.

II. Recent Digital Vanishing and Preservation Efforts

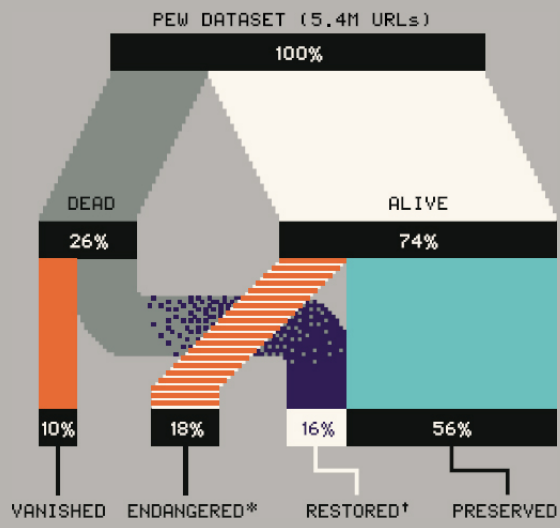
Over the last few years alone, rights holders have needlessly cut short the lifespan of recent digital information and culture. While publishers might not be willing to keep their works around for the public good, attentive individuals and memory institutions will—provided that they are legally empowered to own and lend digital materials. This part explores very recent instances of digital vanishing, and identifies preservation efforts by the Internet Archive which have assured public access to digital culture.

Recent Web Vanishing and Preservation

“If you put something online, it’s there forever.” Year after year that maxim continues to be proven false. Significant cultural hubs that seemingly have the impression of lasting ‘forever’ have also been sites of large-scale, unrecoverable loss. Whether it is Fanfiction.net deleting tens of thousands fan fictions at-will,[42] Tumblr inaccurately taking down users’ artwork under the capacious label of ‘adult’ content,[43] Imgur removing “old, unused, and inactive content,”[44] Gawker shutting down after tech-billionaire Peter Thiel bankrolled a vendetta lawsuit against it,[45] or Myspace ‘accidentally’ losing twelve years of independent music “totaling more than 50 million songs from 14 million artists,”[46] most websites are not long-term archives, and their owners—often media conglomerates—are not archivists. The history of twenty-first century internet culture breaks without access to these sites of literary and artistic production. Their plight reminds us that if the web is not actively preserved, then unfathomable amounts of culture and information will disappear.

Web vanishing is the subject of the May 2024 report by the Pew Research Center, “When Online Content Disappears,” a study of web page availability over time.[47] Sampling a random selection of nearly one million URLs from 2013-2023, Pew reports that a whopping “quarter of all webpages that existed at one point between 2013 and 2023 are no longer accessible.”[48] The numbers are worse for older web pages, with Pew reporting that 38% of the sampled web pages from 2013 are no longer accessible.[49] Lastly, Pew’s report samples URLs from government and news websites, Twitter posts, and Wikipedia references, reporting significant losses in each of these spheres of the web.

URLs Preserved in the Wayback Machine



Data reproduced by permission of Mark Graham and Sawood Alam, Internet Archive

* URLs not currently preserved in the Wayback Machine

† Dead URLs accessible through the Wayback Machine

Fortunately, these numbers do not tell the complete story, as Pew's report does not account for web pages preserved by the Internet Archive's Wayback Machine. Mark Graham, the director of the Wayback Machine, and Dr. Sawood Alam, the research lead of the Wayback Machine, have been examining how many of Pew's sampled URLs are archived in the Wayback Machine. They obtained the original dataset (minus the Twitter data) of 5.4 million URLs from Pew, then checked those URLs against the Wayback Machine to see when, if ever, each URL was archived. Their full report is forthcoming, but the pair can preliminarily report that around 62% of the URLs that Pew classified as practically dead are actually preserved in the Wayback Machine at least once. This

means that without the Wayback Machine, 16% of Pew's sampled URLs—which constitute a sample of the web—would be gone. The preservation of these URLs is a huge win for public knowledge, but a win that must be tempered by the fact that around 10% of Pew's sampled URLs are practically lost. Further, the team identified 18% of Pew's URLs as "endangered," meaning that they are presently available on the live web, but that they have not yet been archived, and are thus at risk of completely disappearing should they ever go down.

Putting aside the entertainment and scholarly value in preserving these websites, preserving the web is necessary for maintaining a fact-driven, politically informed populace, who increasingly rely on the internet to acquire information. A 2014 study published in the Harvard Law Review found that 49.9% of the links in all Supreme Court opinions "either did not contain the information originally cited or contained information that had changed materially" or were outright broken.[50] A 2023 Pew study reported that 86% of US adults used a digital device to get their daily news, and only 5% preferred print over digital and television news.[51] Print information is historically useful in its immutability: a newspaper purchased on the date of a child's birth will have the exact same content when it is given to them on their eighteenth birthday. In the case of public memory and accountability, thousands of individuals and libraries holding the same physical copy of, say, *The New York Times*, ensures that history cannot easily be erased. If someone wants to edit or delete the content of an article printed in a physical newspaper after it has been published, they would need to track down and destroy every copy.

"Preservation, then, is not only about venerating our cultures and communities, but also understanding our past and present and turning a critical gaze on them when necessary. „

- **Katie Livingston**,"Preserving Cookbooks"

The same is woefully untrue for digital sources, which can be stealthily edited and deleted at-will, facilitating a world in which malicious historical rewriting and misinformation is one of the biggest present threats to democracy.[52] To escape a political memory hole, it is instrumental that journalism and other factual information is preserved and made available to the public. As misinformation scholar Claire Wardle writes in her contribution to this report, "...if we want to understand the mechanisms by which misinformation moves through the information ecosystem, we absolutely need the ability to search archives of television, radio and print (both newspapers as well as digital outlets—many of which we're seeing shutting down without archiving the site)."[53]

One notable slew of web takedowns in 2024 was at the hands of Paramount, who took down the MTV News and CMT websites, which collectively archived decades of entertainment history and journalism. Fortunately for the hundreds of journalists who saw their work disappear overnight, and for cultural historians, the Wayback Machine has saved over 470,000 pages from MTV News since 1997, and 70,000 pages from CMT News since 2002.[54] Those numbers are wonderful and should be celebrated, but it is important to note that the Wayback Machine does not archive everything.[55] Worse, there is no other comparable public archive: without the Wayback Machine, these sites very well may have permanently vanished from public access.

470,000

Pages from the MTV News web site

have been preserved by the Internet Archive since 1997.

***Supporting data:** “Wayback Machine has saved over 470,000 pages from MTV News since 1997, and 70,000 pages from CMT News since 2002.”

“The Internet Archive is essential at ensuring that we have an understanding of what was happening on the internet at a given point in time. That is not something that is constantly useful, but it is something that is occasionally extremely useful. „

- **Philip Bump**, “Q&A with Philip Bump, *The Washington Post”*

Paramount additionally axed the Comedy Central website, causing the site’s extensive television clip archive to completely

disappear from public access. Notably, this takedown caused the disappearance of early seasons of *The Colbert Report*, alongside the Jon Stewart era of *The Daily Show*—episodes that are historically significant for their biting criticism of the wars in Afghanistan and Iraq.[56] These shows have scarce and very limited physical releases: when they disappear online, they are gone for good. In response to these removals, *Variety* magazine received the following statement from a Paramount Global representative: "As part of broader website changes across Paramount, we have introduced more streamlined versions of our sites, driving fans to Paramount+ to watch their favorite shows."[57] Unsurprisingly, Paramount+ does not have it all. A search on the platform as of September 2024 reveals that only the two most recent seasons of *The Daily Show* are available for streaming, and none of *The Colbert Report* is available.[58] Researchers, educators, and fans can turn to the Internet Archive's TV News Archive for some relief, which has searchable recordings available for *The Colbert Report* from 2011-2014 and *The Daily Show* from 2011-2015.[59] As for the remaining episodes? Effectively gone. As streaming continues to churn out record subscribers and profits every year,[60] as conglomerates continue to control the entertainment market,[61] and as the absence of ownership prevents collectors from saving materials,[62] we can only expect that more creators, regardless of their popularity, will vanish alongside Stewart and Colbert.

It is impossible to definitively know what will be useful to future journalists, scholars, educators, and citizens. As such, web archivists often strive to preserve as much online content as possible. Broadly preserving the web allows the public to hear the sounds of fringe Myspace bands,[63] to accurately reference over nine million previously broken Wikipedia citations,[64] and to peruse early digital culture through BBS archives.[65] Preserving the web paves the way for a historically conscious populace who will look back on the early internet to not only try to make sense of early twenty-first century political discourse, but to better understand the origins of their present digital environment, and to unearth forgotten alternatives to their inherited web.

“But when we preserve and revisit the remnants of digital culture’s recent history, it behooves us to remember that this networked realm, as imperfect and as frustrating as it can feel sometimes, is what we make it. And maybe if we realize that, we can start to again play a more active role in shaping a better collective future that many of us want. „

- **JD Shadel**, “What Early Internet Era GIFs Show Us About Preserving Digital Culture”

Recent Video Game Loss and Preservation

In 2022, the global gaming industry generated more revenue than both the global music and film industries combined by an estimated $132 billion.[66] Video games not only entertain us: they are works of art, educational tools, and at times, vehicles for ideologies that are in need of scholarly study. Because the gaming industry is larger now than ever before, it becomes all the more interesting to look back on its history, so as not only to understand how household names such as Mario and Master Chief became so ubiquitous, but also to recover game histories that may have been forgotten during the massive expansion of the industry. Unfortunately, that history is practically impossible to study because games are not being sufficiently reissued by their rights holders, and because public-serving institutions (and fans) have not been given the explicit right to make emulated or ported versions of commercially unavailable games available for the public to play.[67]

In July 2023, the Video Game History Foundation and the Software Preservation Network co-published a study by Phil Salvador, Library Director at the Video Game History Foundation, on the commercial availability of historical video games, which he defines as “game[s] originally produced for a platform or operating system that is no longer in production or being supported.”[68] Salvador investigated the availability of over 4,000 historical video games across different platforms from 1960-2009.[69] What he found was devastating: “nearly 90 percent of the game industry’s historical output is inaccessible without acquiring vintage games and hardware from the expensive second-hand market, visiting library collections in person due to restrictions imposed by Digital Millennium Copyright Act, or resorting to piracy.”[70] Salvador’s study revealed that not a single decade in the history of video games exceeded 20% commercial availability. Perhaps even worse for game historians and members of the public who enjoy playing old games, the reissue rate for pre-1985 games was below 3%.[71]

“As a game developer, I’ve been in the rare and fortunate position of being able to archive and share source code, assets and development materials from many of my games. One reason is that my publishing contracts let me keep the copyrights (unusual even in the 1980s, almost unheard of today). „

- **Jordan Mechner**, “Preserving Gaming History”

This absence in commercial availability is undoubtedly driven by the costs associated with keeping games up to date and running. What makes video games unique (and expensive to keep available) is the hardware and software they run on, which must be constantly updated in order to remain usable. That work is labor intensive, and it is not cheap: “Josh Fairhurst, CEO of Limited Run Games, a company that specializes in game

reissues, estimates that porting a single historical game to modern platforms can cost $350,000. The ability to port a game to another platform also assumes that the developer still has access to their game's original source code, which is often lost or unavailable, especially for older titles."[72] Big publishers, understandably, would not spend money reissuing games with low-commercial interest. Gaming communities and archives have demonstrated their aptitude and passion for the meticulous work of making commercially unavailable historical games and other obscure software accessible to the public through porting and emulation.[73] However, their ability to do that work is frustrated by the legal ambiguities around orphan works.[74]

Orphan works (more frequently called "abandonware" in software communities) are any works protected by copyright, such as books, films, music, or software, that publishers no longer make commercially available to the public, but whose copyright is still held by rights holders who either cannot be located or who do not respond to usage inquiries.[75] Abandonware is often quite popular and culturally significant, such as the original *Oregon Trail*, without which our understanding of late twentieth-century American schooling is fundamentally incomplete. Because copyright lengths are so long, abandonware disappears from public memory when the hardware necessary for playing the game disappears, and when rights holders do not release their source code to the public, which would allow preservationists to update the game for newer systems. Even when archives do have these games and their code, they are hesitant to update and make abandonware available to play online in the event that litigious rights holders emerge from the shadows and claim an infringement of their copyright.[76]

Without copyright exemptions allowing libraries and archives to emulate their game collections, there is little that they can do to make game history and other historical software available to the wider public.[77] Software preservationists and game enthusiasts have long advocated for a copyright exception that would allow video game researchers and teachers remote access to games held by libraries, and an explicit protection for institutions

preserving and making abandonware available to the public.[78] Corporations, however, are reluctant to allow these exceptions. In a response to questions about these copyright exceptions, Mike Gallagher, CEO of the Entertainment Software Association (the video game industry's trade association), remarked that, "There's no such thing as an obsolete game when you can revive it on any platform at any time. It's digital. From our perspective, there is no merit to the term 'obsolete.'"[79] Under the omnipresent possibility of a profitable reissue, Gallagher's statement makes it clear that corporations will hold onto their rights over any digital content for the full copyright term (around a century)—far too long for anyone to still be around to remember the importance of that work in the first place. Despite Gallagher's point that digital materials can technically be revived at any time, Salvador's study reveals that very few games are actually reissued by publishers. Unless changes are made to our laws to allow libraries and their patrons better access to these games, they and other software libraries will continue to rot and vanish from our memory. That vanishing is not just detrimental for gamers and scholars attempting to establish the significance of video games across time; it erases the labor of countless artists who poured their time, energy, and passion into the production of these works of art, only for their work to be locked away by rights holders waiting for an (improbable) future revival.

Free market logic suggests that the most popular games of all time will continue to be available until they enter the public domain.[80] Even if that were true (and Salvador's study strongly suggests that it is not), a preservation practice that preserves only the 'greatest hits' cedes cultural memory and history to only the most popular works of a narrow time period and the interests of their financial backers. History teaches us that the values that determine what is worthy of preservation and what is not are always subject to change. The historical erasure and devaluation of Black, Indigenous, and other People of Color, LGBTQ+, and women's history and culture in the United States and beyond shows how an historical moment can be dangerously inaccurate in its evaluation of value, causing legacies of joy and oppression to vanish through biased preservation practices.

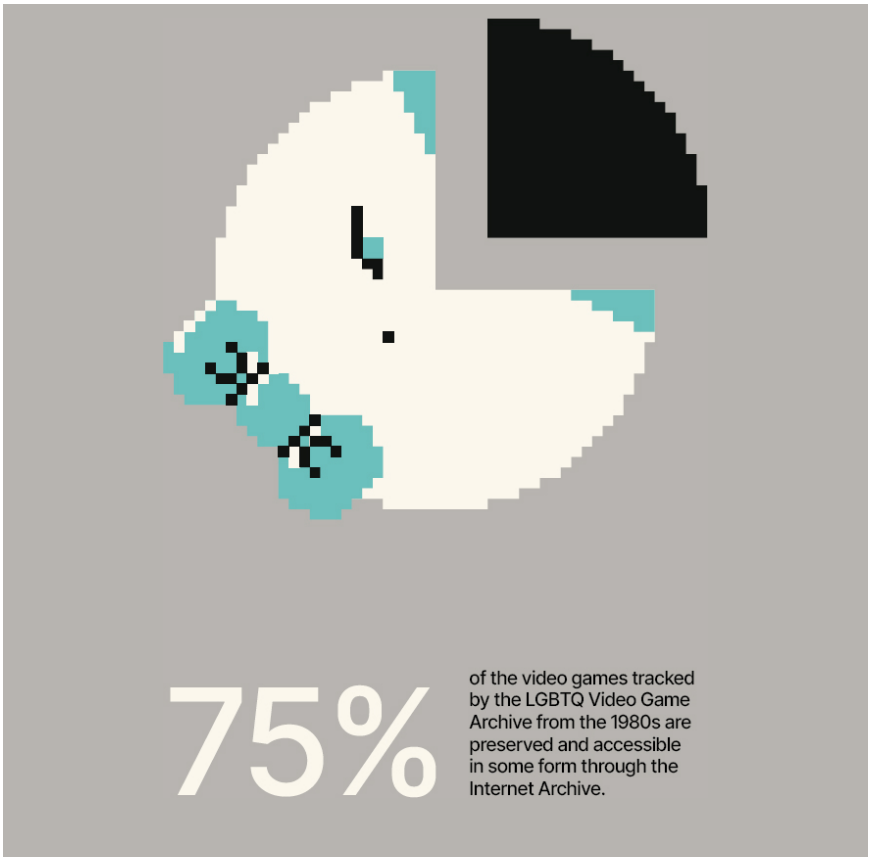
“Classically, archives are brutal, desolate places to find humanity; they were never meant to record the nuances of flesh and blood existence so much as they originate as a way governments keep track of their resources. It has taken millennia for us to conceive of records as places where humanity might be honored rather than betrayed. This is an epic change: I am in awe of the fact that I live in a time where the heft of documentary history—clay, parchment, paper, and now pixel—is shifting paradigms from records kept by anonymous paid laborers to flatten life into statistics, to records kept by people who dare to name themselves and their subjectivity, who collect something of themselves and their obsessions, for other kindred spirits to find. ”

- **Brooke Palmieri**, “Cultural Preservation and Queer History”

The social significance of broad, profit-disinterested preservation is in ensuring that works that were once commercially unsuccessful—perhaps because they were meant for a specific community, or were ahead of and controversial in their times—are remembered, appreciated, and available for critical study and reevaluation in the present and future. Adrienne Shaw, professor of media and communication at Temple University, created the LGBTQ Video Game Archive in order to document games containing LGBTQ content, including queer characters, gay history and representation, and even homophobic and transphobic content.[81] The 1,200+ games identified by the archive vary wildly in popularity and availability, from the hit sci-fi game series *Mass Effect* (which has been remastered and is commercially available) to little known one-offs such as Namco’s 1992 Game Boy game *Great Greed*, one of the first video games to have a same-sex marriage option, and which is now commercially unavailable.

Shaw and the LGBTQ Video Game Archive have frequently teamed up with the Internet Archive to ensure that these historically important games are available for research and access. Consider the twenty video games from the 1980s[82] that Shaw and her team identified as containing LGBTQ content: ten of these games are preserved and accessible through emulation at the Internet Archive's Software Library. An additional five games have full playthroughs available for viewing on the Internet Archive. Of the remaining five games, four are commercially available or have an emulated version available elsewhere, and one has a full playthrough available for viewing on YouTube. All in all, 75% of the identified LGBTQ video games from the 1980s are preserved and accessible in playable or viewable form through the Internet Archive. Without the work of researchers like Shaw and public-serving institutions like the Internet Archive, these games might very well have vanished from public memory.

In his infamous "Manifesto for a Ludic Century," professor and game designer Eric Zimmerman declared the twenty-first century to be the century of the game. "Games are beautiful. They do not need to be justified," he remarks at the end of his manifesto. "Appreciating the aesthetics of games - how dynamic interactive systems create beauty and meaning - is one of the delightful and daunting challenges we face in this dawning Ludic Century."[83] Game appreciation is impossible when games more than a few years old are kept from public access by publishers hoping for a future profitable reissue. As the Committee for Film Preservation and Public Access declared in a 1993 statement to the Library of Congress: "preservation is great, but preservation without access is pointless."[84] The public needs improved access to be able to learn from and enjoy a diverse gaming history, from massive hits like *Starcraft* and *Minecraft*, to *Caper in the Castro*, perhaps the very first "Gay and Lesbian based Adventure Mystery Game," which was notably distributed as a work of "careware," asking players to donate to an AIDS charity of choice instead of paying the creator directly for a copy.[85] An equitable curation, appreciation, and study of game history can only be accomplished when public-serving institutions are allowed to purchase, own, and make commercially unavailable games available to play online.



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42 ■ Community members have described these losses at "FanFiction.Net's NC-17 Purges: 2002 and 2012," *Fanlore*.

43 ■ Tumblr's 'porn ban' famously miscategorized and removed swaths of digital artwork. See, "What Tumblr's Ban on 'Adult Content' Actually Did," *Electronic Frontier Foundation*.

44 ■ Ted Litchfield, "More of the internet could disappear as load-bearing image host Imgur announces deletion of old content and NSFW images," *PC Gamer*, April 23, 2023.

45 ■ Derek Thompson, "The Most Expensive Comment in Internet History?,"

The Atlantic, February 23, 2018.

46 ■ Experts suspect that Myspace intentionally 'lost' this music to free up space. See Kaitlyn Tiffany, "Myspace, which still exists, accidentally deleted 12 years' worth of music," *Vox*, March 18, 2019.

47 ■ Athena Chapekis et al., "When Online Content Disappears," *Pew Research Center*, May 17, 2024.

48 ■ Ibid.

49 ■ Ibid.

50 ■ Zittrain, Jonathan, Kendra Albert, and Lawrence Lessig. "Perma: Scoping and Addressing the Problem of Link and Reference Rot in Legal Citations." *Harvard Law Review* 127, no. 4, (2014): 186-7.

51 ■ Christopher St. Aubin and Jacob Liedke, "News Platform Fact Sheet," *Pew Research Center*, September 17, 2024.

52 ■ Ullrich Ecker et al., "Misinformation poses a bigger threat to democracy than you might think." *Nature* 630 (2024): 29-32.

53 ■ Claire Wardle, "Seeing Is Believing: Preserving TV News in an Age of Misinformation," in *Vanishing Culture: A Report on Our Fragile Cultural Record*, ed. Luca Messarra, Chris Freeland, and Juliya Ziskina (Internet Archive, 2025).

54 ■ Mark Graham, "New Ways to Search Archived Music News," *Internet Archive*, July 10, 2024.

55 ■ For information about some of the Wayback Machine's limitations, see "Wayback Machine General Information," *Internet Archive*.

56 ■ Meredith Blake, "Comedy Central pulls old episodes of 'The Daily Show,' 'The Colbert Report' from website," *Los Angeles Times*, June 27, 2024.

57 ■ Todd Spangler, "Comedy Central's Website Purges 25 Years of Video Clips and Other Content," *Variety*, June 26, 2024.

58 ■ Two years of *The Colbert Report* (2012-2014) are available to 'buy' (that is, purchase the impermanent right to license) from Apple TV as of September 2024. The remainder of both shows are unavailable on any commercial platform within the United States.

59 ■ For Colbert, see "The Colbert Report" and for Stewart, see "The Daily Show with Jon Stewart."

60 ■ *Forbes* reports that "video streaming revenue is expected to reach over $43 billion in 2024," and projects "an annual growth rate of 7.53% from 2024 to 2027." For this data and more, see Ana Durrani, "Top Streaming Statistics In 2024," *Forbes*, last updated August 15, 2024.

61 ■ For a condensed history of media conglomeration, particularly in relation to the streaming market, see Thomas Schatz, "How 2 Companies Came to Dominate the Media Business," *The Nation*, December 13, 2023. See also Dan Sinykin, *Big Fiction: How Conglomeration Changed the Publishing Industry and American Literature* (Columbia University Press, 2023) for a study on how conglomeration transformed American literature throughout the twentieth century.

62 ■ As an indication of this change, Best Buy notably ceased selling DVDs and Blu-ray discs in early 2024. Todd Spangler, "Best Buy to End DVD, Blu-ray Disc Sales," *Variety*, October 13, 2023.

63 ■ See "The Myspace Archive Project," *Internet Archive*.

64 ■ Mark Graham, "More than 9 million broken links on Wikipedia are now rescued," *Internet Archive*, October 1, 2018. Note that this official number is from 2018 and has only continued to grow.

65 ■ See e.g. textfiles.com.

66 ■ Krishan Arora, "The Gaming Industry: A Behemoth With Unprecedented Global Reach," *Forbes*, November 17, 2023.

67 ■ An emulator is hardware or software which imitates old hardware and operating systems, allowing old game code to be executed. Porting is when old game code is modified so that it can be used on new systems. Both are utilized by software preservationists to make outdated games available to the public. The Software Preservation Network has published a helpful overview of the legal rights granted to software preservationists, see Kendra Albert and

Kee Young Lee, *A Preservationist's Guide to the DMCA Exemption for Software Preservation* (Software Preservation Network, 2022).

68 ■ Phil Salvador, *Survey of the Video Game Reissue Market in the United States* (Video Game History Foundation and Software Preservation Network, 2023), 39.

69 ■ Salvador, 1.

70 ■ Salvador, 3.

71 ■ Salvador, 2.

72 ■ Salvador, 7.

73 ■ See e.g. The Elder Scrolls Renewal project, a community of volunteers working entirely for free to update old *Elder Scrolls* games for newer game engines. Rights holders have also historically benefited from and subsumed major fan restoration projects. For example, in 2009, programmer and Sonic the Hedgehog fan Christian Whitehead uploaded a video of his proof-of-concept port of the platformer *Sonic CD* (Sega, 1993) to Youtube. Shortly afterward the video was taken down, but two years later, Sega formally released Whitehead's remake, giving him the appropriate credit. Simon Parker, "Sonic CD Review," *Eurogamer*, last updated December 22, 2011.

74 ■ For a public-facing discussion of how copyright inhibits game preservation and access, see Noah Smith, "Academics want to preserve video games. Copyright laws make it complicated," *The Washington Post*, January 12, 2022.

75 ■ For a discussion of the legal issues posed by orphan works, and some solutions that could benefit cultural posterity, see the US Copyright Office's 2015 report, *Orphan Works and Mass Digitization* (Washington, D.C.: United States Copyright Office, 2015). See also Patricia Aufderheide et al., *Statement of Best Practices in Fair Use of Collections Containing Orphan Works for Libraries, Archives, and Other Memory Institutions* (CMSI, 2014).

76 ■ Beyond playable uploads, rights holders have even ordered the takedown of emulated video playthroughs of abandoned games. See e.g. Damien McFerran, "Nintendo Is Now Going After YouTube Accounts Which Show Its Games Being Emulated," *Time Extension*, October 1, 2024.

77 ■ Copyright law poses many difficult challenges to digital preservation efforts. See Brief of Amicus Curiae American Library Association, et al. at 24-35, Allen v. Cooper, 589 U.S. 284 (2019) (No. 18-877).

78 ■ Kyle Orland, "Can an online library of classic video games ever be legal?," *Ars Technica*, April 25, 2024.

79 ■ Kyle Orland, "Gaming trade org: For DMCA, 'there's no such thing as an obsolete game'," *Ars Technica*, June 23, 2015.

80 ■ "The term 'public domain' refers to creative materials that are not protected by intellectual property laws such as copyright, trademark, or patent laws. The public owns these works, not an individual author or artist. Anyone can use a public domain work without obtaining permission, but no one can ever own it." For this definition, and to learn more about the public domain, see "Welcome to the Public Domain," *Stanford Libraries*.

81 ■ Visit the LGBTQ Video Game Archive for more details.

82 ■ See "1980s" at the LGBTQ Video Game Archive for the list of these games.

83 ■ Eric Zimmerman, "Manifesto: The 21st Century Will Be Defined By Games," *Kotaku*, September 9, 2013.

84 ■ The Committee For Film Preservation and Public Access, *"Preservation Without Access is Pointless"* (Library of Congress, 1993), 1.

85 ■ *Caper in the Castro* is available to play at the Internet Archive. See CM Ralph, *Caper in the Castro* (Internet Archive, 2017).

III. Historical Losses and the Future of Cultural Preservation

Having discussed recent instances of cultural loss and preservation, we can look to examples from the film and music industries to see what happens when long-term preservation and availability is left in the hands of publishers. In a talk he gave at the Library of Congress in 1993, film historian, archivist, and preservationist Robert Harris, who worked on restorations of cinema masterpieces such as *Lawrence of Arabia*, *Vertigo*, and *The Godfather* trilogy, detailed the cause of early film loss:

> We have all heard many times that we have already lost some 50% of the films made before 1950, that our nitrate heritage is slowly turning to powder before our eyes while budgets and time are running out. This is all true [...but] it gives the impression that all of these nitrate films simply decomposed while attempts were being made to preserve them. This is untrue. Most of the early films did not survive because of wholesale junking by the studios. There was no thought of ever saving these films. They simply needed vault space and the materials were expensive to house.[86]

The majority of the Silent Film era is completely gone as a result of these junkings by studios. In a 2013 report jointly published by the Library of Congress and the Council on Library and Information Resources, film historian and archivist David Pierce concluded that “only 14% of American silent feature films (1,575 of 10,919 titles) survive as originally released in complete 35mm copies.”[87] That level of loss is what happens when the bottom line

motivates what is saved and what is trashed. As journalist and information activist Maria Bustillos writes, “Publishers are not archivists, they’re not librarians, and they shouldn’t be in control of cultural posterity.”[88]

Culture does not only vanish when all extant copies suddenly disappear: it vanishes when the public forgets about its existence. While the history of the Silent Film era shows us how profit-motivation can directly lead to cultural loss, the present state of historical sound recordings shows us how obscene copyright lengths—coupled with physical media obsolescence—equally leads to loss. In a 2005 report commissioned by the National Recording Preservation Board at the Library of Congress, media executive and historian Tim Brooks quantifies “the degree to which rights holders of historical sound recordings have made available, either directly or through licensees, past recordings that they control” by counting how many protected music cylinders and records had been reissued as CDs.[89] Out of a random, multi-genre sample of 1,522 protected music recordings from 1890-1964, Brooks discovered that only 36% of these recordings were available on CD. The numbers were particularly abysmal for protected “ethnic” music (“only 1 percent reissued”), alongside jazz and ragtime, blues and gospel, and popular music (“all around only 10 percent reissued”) suggesting that musicians of color are disproportionately affected by rights holders’ failing to reissue music.[90] Without digitizing or transferring the oldest of these recordings—stored on fragile and decaying music cylinders and 78s—to CDs, these recordings, containing the earliest records of American music, will disappear.[91]

The root of the problem, as Brooks notes, is copyright: “copyright law allows only rights holders to make these recordings accessible in current technologies, yet the rights holders appear to have few real-world commercial incentives to reissue many of their most significant recordings. The law has severely reduced the possibility of such recordings entering into the public domain, at least until 2067.”[92] Today’s lengthy copyright terms ensure the material and historical demise of all but the most popular and well-funded productions. Recall that as a general rule, copyright lasts

the life of the author plus seventy years, or ninety-five years in the case of works made for hire.[93] As all hardware and software continues to change, most content that is not reissued will either fade away into obscurity, or physically decay long before it enters the public domain.

Indeed, 'new' media obsolescence is where the print-origins of the United States' copyright laws show their age. Per the Constitution, copyright's intent is "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[94] Although copyright grants creators a monopoly over their work, the Supreme Court recognizes that monopoly as a temporary grant, with public access always being its end goal:

> The monopoly privileges that Congress may authorize are neither unlimited nor primarily designed to provide a special private benefit. Rather, the limited grant is a means by which an important public purpose may be achieved. It is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.[95]

Copyright exists to incentivize creators to make ingenious works for the public good. Yet copyright's purported goal of "allow[ing] the public access to the products of [a creator's] genius" cannot be achieved when the public can only license and stream digital materials, and when physical media degrades beyond repair after nearly a century of distribution control.

As all hardware and software continues to change, most content that is not reissued will either fade away into obscurity, or physically decay long before it enters the public domain.

Rights holders sitting on the rights for materials and blocking libraries from making them available is inconsistent with the public aims of copyright.

What *is* consistent with the intents of copyright is empowering public-serving institutions to preserve and make culture available in the long-term. That work is essential for cultural longevity and prosperity. After all, cultural historians know that the ‘greatest’ works of art take time and widespread dissemination to become culturally significant. Imagine American film history without Frank Capra’s *It’s a Wonderful Life*. What so many families now recognize as a cherished Christmas film was a massive commercial failure when it was released in 1946. Copyright law at the time protected the film for 28 years, with the option to renew copyright for an additional 28 years after the initial period expired. The film’s rights holder, Republic Pictures, did not renew their copyright, causing the film to fall into the public domain. Television studios subsequently played the cost-free content non-stop around the holidays, allowing the film to be reevaluated as a Christmas classic by a new generation.[96] Were copyright terms as long as they are now, the film ranked by the American Film Institute in 1998 as the eleventh greatest American movie of all time very well may have vanished from public memory, or, its nitrate film stock may have been junked like so many of its ilk.[97]

What can we do ?

The case of *It’s a Wonderful Life* demonstrates how economics and the tastes of the present are poor predictors for long-term cultural value. Public archives are necessary for ensuring that culture is not prematurely erased by seemingly low commercial

interest, and that factual information is safeguarded from nefarious actors. These institutions will continue to perform the unprofitable work of preserving our knowledge and cultural heritage as best they can, but that work can only be done if we financially, legally, and culturally empower librarians, archivists, and preservationists to do the work that they have dedicated their lives to doing.[98] The law has demonstrated its ability to protect libraries in the age of physical book lending, but it must move now to protect the rights of digital archives and their patrons. The public can advocate for legislative reform—whether that be shorter copyright terms or protections for non-commercial preservation and accessibility efforts—so that members of all communities can access and have their cultural heritage properly preserved.[99]

The word "vanish*ing*" suggests that our culture is in the process of disappearing, and that cultural erasure can be reversed. Indeed, it can—by letting individuals and institutions purchase, own, and lend material and digital culture. The promise of the internet as a public repository of knowledge carries on through the daily labor of open access digital archives and their custodians. The Internet Archive, as one such archive, provides one guard against vanishing culture. However, it cannot be the only mechanism for historical preservation. The recent destruction of libraries and archives in Ukraine[100] and Gaza[101] has tragically demonstrated the ever-present fragility of public memory repositories. Supporting and contributing to open access digital archives such as Project Gutenberg, etree, New York Public Library's Digital Collections, and the After Violence Archive, to name only a few—alongside buying works from ownership-based media distribution platforms such as Bandcamp and itch.io—would collectively help ensure that cultural heritage does not disappear when a single archive or publisher goes down.

Of course, there are times where centralized preservation makes sense and is necessary, such as with sacred knowledge and sensitive information. Such content is necessarily location and context specific, and requires a specially-trained community's care to ensure that these materials are not misused. The problem, however, arises when media conglomerates, government officials,

influential public figures, and news organizations alone hold the keys to cultural and political memory. Whether it is cult film aficionados hosting local screenings of their old favorites, families uploading photographs to the South Asian American Digital Archive (SAADA), or authors making their works available to download on the Internet Archive, our record is best preserved and most equitably produced when the People, and public-serving institutions, have shared custodianship over their cultural heritage.

Laws can be changed, archives can be funded, but perhaps what is most needed is a cultural shift in policymakers' perceptions of artistic production and custodianship. The Second Circuit's recent appellate opinion in *Hachette v. Internet Archive* invoked a profit-driven talking point of the publishing industry, that "if authors and creators knew that their original works could be copied and disseminated for free, there would be little motivation to produce new works."[102] Creators know that this is a gross oversimplification of the reasons they create.[103]

"What we have now on YouTube is a more democratic, unfiltered sampling of living oral traditions; what we don't have is an archive of it. YouTube is a private entity. It could unilaterally announce a sunset policy for old videos, or lose a lawsuit, or even go out of business, and then some or all of those videos would suddenly disappear. In the current context, this is what we mean by "vanishing culture" – not that "the music is dying." „

- **Mark F. DeWitt**, "Music as Oral Tradition"

The Grateful Dead, for example, did not say no to fans taping and sharing their live concerts. When digital audio files began to proliferate in the early aughts, the Dead endorsed the non-

commercial sharing of MP3s containing their performances.[104] As a result, the Live Music Archive holds over 17,000 recordings of Grateful Dead concerts for cultural posterity, and the Dead are no worse historically (or financially) for it.[105]

To that end, members of the public can create—and encourage their favorite creators to create—works under Creative Commons licenses.[106] This report is published under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), allowing readers to share and adapt the work however they like, provided that they attribute the original source. Publishing content under these licenses ensures that works are not needlessly forgotten by lengthy copyright restrictions, allowing the public to play a role in tending to the content that matters to them. Over 2.5 *billion* works[107] have been published by creators around the world under a Creative Commons license: a testament to the everyday production of art and knowledge beyond maximal economic profit.[108]

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86 ▪ "*Robert A. Harris' Statement at the Film Preservation Study: Washington, D.C. Public Hearing, February 1993,*" *The American WideScreen Museum*.

87 ▪ David Pierce, *The Survival of American Silent Feature Films: 1912–1929* (Council on Library and Information Resources and Library of Congress, 2013), 21.

88 ▪ Maria Bustillos, "Writers Have a Secret Weapon for Protecting Libraries Like the Internet Archive" *Popula*, March 28, 2023.

89 ▪ Tim Brooks, *Survey of Reissues of U.S. Recordings* (Council on Library and Information Resources and Library of Congress, 2005), 1.

90 ▪ Brooks, *Survey of Reissues of U.S. Recordings*, 9.

91 ▪ Several contributors to this report write about the urgent need to digitize fragile and decaying physical media. See e.g. Mark O'Brien on filmstrips, Nichole Misako Nomura on punch card knitting, Eve Scarborough on type

ephemera, and George Blood on 78s. Readers interested in music cylinder preservation efforts may enjoy exploring the UCSB Cylinder Audio Archive.

92 ■ Brooks, *Survey of Reissues of U.S. Recordings*, 14. Note that Brooks' *Survey* was written in 2005 and that copyright lengths for pre-1923 recordings have since changed. The 2018 Music Modernization Act made all pre-1923 sound recordings enter the public domain in 2022.

93 ■ It is critical to remember that copyright was not always this long. The United States passed its first copyright law in 1790, granting creators fourteen years of protection, with the opportunity to renew protection for another fourteen years. In 1831 the length was changed to twenty-eight years, with an optional fourteen year renewal that was extended to twenty-eight years in 1909. Many substantial changes occurred throughout the twentieth century, but it was not until the 1998 Sonny Bono Copyright Term Extension Act—often referred to as the "Mickey Mouse Protection Act," since Disney lobbied heavily in support of the act to keep the *Steamboat Willie* version of Mickey Mouse from falling into the public domain—that copyright in the United States protected works for the life of the author plus seventy years, or ninety-five years in the case of works made for hire. Laws can change: policymakers can shorten these terms if they are not properly serving the public good. For a condensed history of U.S. copyright law, see "A Brief History of Copyright in the United States," *U.S. Copyright Office*.

94 ■ U.S. Constitution, art. 1, sec. 8, cl. 8.

95 ■ *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

96 ■ George Thuronyi, "It's a Wonderful Life," *Library of Congress*, December 22, 2017.

97 ■ "AFI's 100 Years…100 Movies," *American Film Institute*.

98 ■ Some advocacy groups at the forefront of this fight for a long-lasting information and entertainment ecosystem include Fight for the Future, Authors Alliance, the Brick House Cooperative, and Library Futures.

99 ■ Ziskina has discussed the specifics of these reforms in *Toward a New Access Paradigm: Digital Ownership for Libraries and the Public*, pp. 6-10.

100 ■ Richard Ovenden, "Putin's War on Ukrainian Memory," *The Atlantic*,

April 23, 2023.

101 ■ Mohamad El Chamaa, "Gazans mourn loss of their libraries: Cultural beacons and communal spaces," *The Washington Post*, November 30, 2023.

102 ■ *Hachette Book Group, Inc., et al. v. Internet Archive*, No. 23-1260, —— F.4th ——, ——, 2024 WL 4031751, at *20 (2d Cir. Sept. 4, 2024).

103 ■ The monetary incentives afforded by copyright are not the only reason creators make work, evidenced in-part by what Kal Raustiala and Christopher Sprigman call intellectual property's "negative spaces," spaces where industries economically and socially flourish without intellectual property protections. For a discussion of these spaces, see Elizabeth L. Rosenblatt, "A Theory of IP's Negative Space," *The Columbia Journal of Law and the Arts* 34, no. 3 (2011): 317-365, particularly notes 8-19 (pp. 319-20) for multidisciplinary case studies of successful artistic productions without these protections. See also Jessica Silbey, *The Eureka Myth: Creators, Innovators, and Everyday Intellectual Property* for an examination of the ways in which IP laws do and do not incentivize innovation and creativity. Lastly, see Robert Ellickson, *Order without Law*: *How Neighbors Settle Disputes* (Harvard University Press, 1991), for a study and theory of extralegal balancing acts that emerge naturally within communities.

104 ■ "Statement to MP3 Site Operators," *dead.net*.

105 ■ The Live Music Archive's Grateful Dead collection may be browsed at https://archive.org/details/GratefulDead?tab=collection.

106 ■ To learn about these licenses, see "About CC Licenses," *Creative Commons*.

107 ■ "Technology Platforms," *Creative Commons*.

108 ■ The Internet Archive provided a stipend and editorial assistance to the author to support this project. This part has materially benefited from feedback by Caroline Bailey, Lila Bailey, Alice Bridgwood, Maria Bustillos, Laura Crossett, Emily Dearborn, Jennie Rose Halperin, Dave Hansen, Lia Holland, Sean Messarra, Nichole Misako Nomura, and Jason Scott. Special thanks is given to Michael Menna for introducing the author to the Internet Archive as an organization, and for being an intellectually generous friend and colleague.

Part 2:

Narratives of Cultural Preservation and Loss

“All those moments will be lost in time, like tears in rain. „

- **Roy Batty**, *Blade Runner*[109]

“You see, George, you've really had a wonderful life. Don't you see what a mistake it would be to throw it away? „

- **Clarence Odbody**, *It's a Wonderful Life*[110]

109 ▪ Ridley Scott, dir. *Blade Runner*. Warner Bros., 1982.

110 ▪ Frank Capra, dir. *It's a Wonderful Life*. RKO Radio Pictures, 1946.

Large data studies are necessary for understanding the scale at which our culture is vanishing. Equally important are smaller, intimate narratives of loss, which tell us the depths at which vanishing culture affects both individuals and the broader public good. The following essays present such narratives of cultural loss by experts and passionate members of the public.

These essays have been formatted for print.
To read the essays online with active links to references cited, please visit: https://archive.org/details/vanishing-culture

Books and Material Culture

On the Importance of Remembering Forgotten Books
Brad Bigelow

Preserving Papiamento—Safeguarding Aruba's Language and Cultural Heritage
Peter Scholing

Preserving African Folktales: Interview with Laura Gibbs and Helen Nde
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Cultural Preservation and Queer History
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Keeping the Receipts
Maria Bustillos

Seeing is Believing: Preserving TV News in an Age of Misinformation
Claire Wardle

The DuMont Network: America's Vanishing Television History
Taylor Cole Miller

On Television News and Entertainment
Jeff Ubois

Q&A with Philip Bump, *The Washington Post Caralee Adams*

Film, TV, Sound

No Film Left Unscanned
Rick Prelinger

On Filmstrips
Mark O'Brien

On 78s
George Blood

Digital Library of Amateur Radio and Communications
Kay Savetz

Music as Oral Tradition
Mark F. Dewitt

Digital Culture

Preserving Gaming History
Jordan Mechner

Archiving Community Care Work Online
Amanda Gray Rendón

Why Preserve Flash?
Jason Scott

Punch Card Knitting
Nichole Misako Nomura

Recovering Lost Software
Josh Renaud

What Early Internet Era GIFs Show Us About Preserving Digital Culture
JD Shadel

Preserving the Library System
Brewster Kahle

Books and Material Culture

On the Importance of Remembering Forgotten Books

by Brad Bigelow

In Herbert Clyde Lewis's novel *Gentleman Overboard*, Preston Standish slips on a spot of grease while strolling early one morning on deck of a freighter bound for Panama and falls into the Pacific Ocean. No one notices his absence for hours, by which point any hope of rescue is lost. "Listen to me! Somebody please listen!" he cries. "But of course, nobody was there to listen," Lewis writes, "and Standish considered the lack of an audience the meanest trick of all."

There's only one way to succeed as a writer: be read. A lucky few will continue to be read long after their death, earning lasting status as major or minor figures in the literary history of their time. Most, however, will be forgotten—many for good reasons, perhaps. Others, however, are forgotten due to nothing more than bad luck. Mistiming. Poor marketing. The lack of a champion. A prickly personality. Illness. Old age. War. Politics. Whatever the reason, fate often plays mean tricks on writers by taking away their audience.

But the same fate plays a mean trick on us as readers, too. Much of how literature is studied and taught rests on the assumption that classics are classics because they represent the best work of their time. And on the corollary that the texts that have been forgotten deserved it. After decades of searching for and

celebrating the work of neglected writers, I know that neither is true.

Mistiming. Poor marketing. The lack of a champion. A prickly personality. Illness. Old age. War. Politics. Whatever the reason, fate often plays mean tricks on writers by taking away their audience.

There's a fine line that separates the writers whose works win a place in the literary canon and the many others whose don't, and it's a line drawn by chance, not by the critical evaluation of any judge or jury. The difference rarely has anything to do with literary merit. Sadly, talent often matters less than connections, opportunities, good fortune, or unlucky accidents. But to discover this truth, one must look beyond literature's well-traveled paths and discover the riches to be found in the vast landscape of forgotten books.

The Internet Archive plays an essential role in this process—indeed, it's revolutionized our ability to discover works that have been forgotten. Let me illustrate by contrasting two books I'm currently working to bring back to print.

The first is a 1939 novel by Gertrude Trevelyan called *Trance by Appointment*. I learned of Trevelyan in 2018 when I read her first novel, *Appius and Virginia*. At the time, there were at least a dozen used copies of the book available for sale online. Within a week or so of looking for the book and at the cost of under $20, I was able to have a copy in hand. I found the book so striking in style and substance that I sought out the rest of Trevelyan's *oeuvre*, eight novels in total. Although most were extremely scarce and expensive, I was able to purchase them. There were no copies, though, of her last novel, *Trance by Appointment.* In fact, the only copies in existence were those in the four registry libraries supporting British copyright law of the time. I was only able to read the book by traveling to London, getting a reader's

card from the British Library, and sitting with the library's sole copy at a table in the Rare Books room. From the condition of that copy, it was apparent that no one had ever opened it since it was added to the collection. Obtaining a copy of the book for the purpose of reissuing it was even more problematic.

A few years later, I stumbled across a review of a 1940 novel by Sarah Campion titled *Makeshift*. Intrigued, I went looking for a used copy. There were none. Like *Trance by Appointment*, virtually the only library copies were in the British registry libraries. No longer living a train ride away from London, I was about to give up hope until I checked the Internet Archive. And lo, there was not only a copy of *Makeshift* but copies of other equally rare novels by Campion. I used the archive's borrowing capabilities and quickly read *Makeshift*, gripped by its uniquely caustic narrator and her story of being caught up in the diaspora of Jews from Hitler's Germany in the 1930s. With a little research, I was able to locate Campion's son (her real name was Mary Coulton Alpers) and obtain permission to reissue the book as part of the Recovered Books series for Boiler House Press.

Both *Trance by Appointment* and *Makeshift* will be reissued in 2025, but the simple difference in the level of effort involved in getting access to the two books demonstrates the extraordinary value of the Internet Archive. It has, for essentially the first time in mankind's history, made a library of material of incredible depth and richness available to the billions of people worldwide for whom Internet access has become a basic part of their lives.

The Internet Archive transforms our understanding of literature. Literature is not just the classics. I like to use the analogy of a landscape. Today, the fastest route between two places usually involves driving on some freeway—which in much of the American West is practically a straight line. But there's so much to be seen if you get off the freeway, if you follow the two-lane roads that wind around a little more, that take you through the smaller towns, that show you features of the landscape that nobody taking the freeway ever knows about. And even more if you get out of the car

and hike any of the thousands of trails that lead into the wilderness. The landscape is not just that strip you see as you rush along the freeway—in fact, most of our landscape is what you can't see from the freeway.

And literature is like that. The canon of well-known classics, the books one can find in just about every library and bookstore, the books most commonly studied and written about, is like the freeway system of literature. These works have, until recently, been our most accessible and most heavily traveled routes through our literary landscape. With the creation of the Internet Archive and the steady incorporation of material into its collection, a huge amount of our literary landscape—by now a large share of the published material from the seventeenth century on—is just a few clicks away from over half the people in the world. I look forward to seeing many amazing forgotten books and writers get rediscovered and celebrated anew as more readers come to realize that so much of the literature that has historically been remote and inaccessible can now be found just steps from their front doors.

About the Author

Brad Bigelow edits NeglectedBooks.com and the Recovered Books series from Boiler House Press (UK). He is the author of the forthcoming *Virginia Faulkner: A Life in Two Acts* from the University of Nebraska Press.

Preserving Papiamento -Safeguarding Aruba's Language and Cultural Heritage

by Peter Scholing

Languages are living entities that carry the collective memory, culture, and identity of a people. For the people of Aruba, Bonaire, and Curacao (the ABC islands), Papiamento is not only their official language and their native tongue, but also a vital part of this identity. However, in today's rapidly evolving online landscape, where access to English and Spanish language content is easier than ever before, small scale languages like Papiamento may be hard to find, and the traditional (oral, written, analog) methods of language preservation are no longer sufficient.

The preservation of Papiamento now relies on the strategic use of digital tools to capture, store, and make accessible the rich body of written and audiovisual materials that embody the language. This essay will examine the essential role of digital preservation in maintaining Papiamento's vitality, discuss the broader implications for language preservation in the digital age, and highlight the joint efforts[111] of the Aruban heritage community and the Internet Archive in making this a reality.

Papiamento[112] is a Creole language spoken primarily in Aruba, Bonaire, and Curaçao, blending elements from Spanish, Portuguese, Dutch, and African languages, as well as indigenous Arawak. It is a vital part of the cultural identity in these regions,

serving as a unique linguistic bridge that reflects the diverse historical influences of the Caribbean. Papiamento is not just a means of communication, but a symbol of resilience and cultural pride for its speakers.

With Papiamento being a relatively small and regional language,[113] publications in Papiamento are characterized by small print runs, limited availability beyond libraries in the long term, apart from the financial and logistical factors usually associated with small-scale (island) society and (relative) geographic remoteness.

And although the language is very much alive, very resilient, and widely spoken, it is not commercially viable or interesting for international markets. Such is (or was) the case for Papiamento in a digital sense as well: the smaller the language, the longer it takes for a language to be supported or included in software or online products.

But the tide seems to be changing: Launched in 2019,[114] the National Library of Aruba's online collection[115] (hosted by the Internet Archive), has grown into a veritable National Collection effort called Coleccion Aruba[116] with over a dozen partner institutions, from Aruba and beyond, providing access to handwritten, printed and audiovisual works in seven languages,[117] including the largest online text corpus for the Papiamento language,[118] spanning over a million digitized and digital-born pages. Using this growing Papiamento text corpus, Large Language AI Models (LLMs) like ChatGTP can now converse and answer in Papiamento/u, and Papiamento/u is now a supported language in both Meta's AI-assisted "No Language Left Behind" initiative[119] and Google Translate.[120] And just recently in January 2024, the Council of Europe recognized Papiamento[121] as an official European minority language, after having been officialized in Aruba in 2003[122] and in Curacao and Bonaire in 2007.[123]

The advent of artificial intelligence has made quite an impact in

the world of documentary heritage, with one of the newest developments being handwritten text recognition (HTR). With new technologies like the AI-supported Transkribus, HTR technologies are becoming available not only to the bigger institutions in wealthy nations, but also to small island institutions such as Biblioteca Nacional Aruba[124] (the Aruba National Library) and Archivo Nacional Aruba[125] (the Aruba National Archives), which adopted this new technology at a relatively early stage in 2019. The ability to add text layers to scanned manuscripts unlocked documentary treasure chests containing centuries of written records, correspondence, and prose—all within the reach of the Aruba institutions.

After a pilot project in 2022–2023, called “Coleccion Aruba,” between the Internet Archive, the National Library of Aruba, and the National Archives of Aruba, the Aruba subcollection of the Internet Archive became one of the first online platforms where full-text search for handwritten documents was made available.[126] This functionality was completely integrated into its full-text search capabilities, with words and phrases in centuries-old documents becoming just as easy to find as words and phrases written down or spoken as part of the current news cycle. Few (commercial) archival platforms offer full-text search for handwritten sources separately, let alone fully integrated or at no cost, like the Internet Archive does.

In April 2024, the Internet Archive, together with their Aruban partners, announced plans to attempt to digitize all works published in the Papiamento language,[127] enlarging the online footprint of the Papiamento language even more, starting with the works held by Biblioteca Nacional Aruba in their National and special collections.[128] These works will be digitized in-house by the institutions themselves, and to assist in this effort, the Internet Archive has pledged to send a book scanner[129] to the island to increase the scanning capacity on the island. After having visited their new Coleccion Aruba partners, the Internet Archive—together with Aruban national broadcaster Telearuba— have also joined forces to digitally preserve all contents of Telearuba’s livestream and TV offerings.[130] Once combined with the

aforementioned future automatic captioning support for Papiamento, thousands of hours of Aruba's audiovisual heritage will also be opened up[131] for full-text search, for further research[132] and for use in Aruba's education system, which is currently transitioning from a colonial-era education system completely taught in Dutch[133] to a multilingual model mother tongue-based education system.[134]

During the global COVID-19 pandemic, the use of online resources and demand for digital access to information increased greatly: online access was not just expected,[135] but became a basic necessity and a direct life-line for many people. Luckily, with Aruba being a small-scale society like, the library was able to meet this increased demand by rapidly operationalizing the "short lines" that exist between them and local book authors and publishers,[136] by making available crucial resources, such as Papiamento language literary works and essential resources like daily newspapers—free of cost, to not only Aruban students, but also to the general public.

The momentum set into action in 2020 still has not slowed down; rather, it seems to be increasing. More and more local authors choose to forego all the increasing costs typically associated with print publishing, instead choosing to publish directly to the online Aruba Collection and the Internet Archive. Aruba's efforts to digitize and preserve its culture and documentary heritage have piqued the interest of more international audiences as well, with other (Dutch) Caribbean island nations and territories showing interest in replicating the model implemented in Aruba,[137] and with media outlets like Wired,[138] The Verge,[139] and PBS News Weekend,[140] as well as regional news outlets like Antilliaans Dagblad[141] and Caribisch Netwerk,[142] also dedicating attention to the "Aruba story." For example, *Wired* author Kate Knibbs even mentioned during a recent Slate podcast that she suspected Aruba's digital preservation efforts being part of "a really effective guerilla tourism campaign [...] aimed at dorks."[143]

Wired author Kate Knibbs even mentioned during a

recent Slate podcast that she suspected Aruba's digital preservation efforts being part of "a really effective guerilla tourism campaign [...] aimed at dorks."

All things considered, future prospects look encouraging: Aruba's institutions and the Internet Archive are in it for the long haul, and even intend to expand their efforts beyond the white shores of sunny Aruba.

About the Author

Peter Scholing[144] is a digital librarian, researcher and information scientist working for Biblioteca Nacional Aruba, Aruba's National Library. He currently serves as the President of MoWLAC,[145] the Regional Committee for Latin America and the Caribbean for UNESCO's Memory of the World Programme[146] for Documentary Heritage. In 2024, he was awarded the "Caribbean Information Professional of the Year" award[147] by ACURIL, the Caribbean Library Association. His main project, Coleccion Aruba,[148] the Aruba Digital Collection, is the recipient of this year's Internet Archive Hero Award.

Preserving African Folktales: Interview with Laura Gibbs and Helen Nde

by Caralee Adams

Crafting and sharing folktales by word or performance is a long-standing tradition on the African continent. No one owned the stories. They were community treasures passed down through the generations.

Over time, many disappeared. The few stories that were written down enjoyed a broader audience once published. As those books were harder to find or out of print, digitized versions kept some folktales alive.

Laura Gibbs and Helen Nde are among researchers of African folktales who rely on digital collections to do their work. They maintain that digital preservation is essential for these rare cultural artifacts to remain accessible to the public.

Much of the transmission of African stories through performance has been lost. “That’s a culture that has either completely vanished or is vanishing,” said Nde, who immigrated from Cameroon to the United States.

In her forthcoming book on African folklore[149] by Watkins

Publishing (March 2025), Nde said 70% of her references were from sources she found through the Internet Archive. The Atlanta-based folklorist uses material either in the public domain or available through controlled digital lending (CDL) for her research. She also turns to the online collection to inform writing for her educational platform, Mythological Africans.[150]

Many books produced on the African continent by smaller publishing houses are now out of print or very expensive. Nde said without access to a library that carries these folktales, they can be forgotten.

“What’s tragic is that quite often those books that are so hard to get are the books that are written by people from within the culture, or African scholars,” Nde said. “They speak the languages and in some cases, remember the traditional ways the stories are told. They understand the stories in ways that people from outside the cultures cannot.”

These authors can fill in gaps from researchers with a different perspective than those who documented the stories from outside, she said, adding that’s why digital preservation is so important. While many African folklore texts are in the public domain in the United States, much of the anthropological and historical texts with commentary from both African and non-African scholars that provide the necessary context for these folktales are not, Nde said. “In many instances, these important auxiliary texts are out of print, which means access via the Internet Archive is the best way scholars not located in the West might ever be able to access them,” Nde said. “I cannot emphasize enough how important it is that these texts be not only preserved, but made accessible. With the recent ruling in the publishers’ lawsuit, I fear researchers, journalists, writers and other people on or from the African continent who investigate and curate knowledge for the public have lost a valuable tool for countering false narratives.”

For Gibbs, online access to digitized books is critical to the

volunteer work she does since retiring from teaching mythology and folklore at the University of Oklahoma. She compiled A Reader's Guide to African Folktales at the Internet Archive,[151] a curated bibliography of hundreds of folktale books that she has shared with the public through the Internet Archive.

"For me doing my work, the Internet Archive is my library," said Gibbs, who lives in Austin, Texas. "There are books at the Internet Archive that I can't get at my local library or even in my local university library. Some of these books are really obscure. There just physically aren't that many copies out there."

Being able to check out one digital title at a time through controlled digital lending opened up new possibilities. In her research, she can use the search function with the title of a book, name of an illustrator or some other kind of detail. Now in her digital research, she can use the search function to perform work that she couldn't do with physical books, such as keyword searches, with speed and precision. The collection also has been helpful in her recent project at Wikipedia[152] to fill in information on African oral literature, such as proverbs and folktales.

"Digital preservation is not only preservation, it's also transformation. Because when things have been digitized, you can share them in different ways, explore them in different ways, connect them in different ways," Gibbs said. "So, I connect different versions of the stories to one another, and then I can help readers connect to all those different versions of the stories. But now, because of the publishers' lawsuit, many important African folktale collections and reference works are no longer available for borrowing at the Archive."

What would it mean to lose digital access to these folktales? "It would be the end of my work," said Gibbs. "My whole goal is to make the African folktales at the Archive more accessible to readers around the world by providing bibliographies, indexes, and summaries of the stories. But now the publishers are shutting

down that public access.”

“The stories were embodied in the traditional storytellers and in their communities, and the continuity of that tradition over time has been so disrupted,” Gibbs said. “The loss is just staggering. The stories that were recorded are just a tiny fraction of the thousands of stories in the hundreds of different African languages…We can’t afford to let this kind of loss happen again in the digital world.”

Gibbs adds that just as museums are repatriating artifacts from colonized countries, the original stories of African countries need to be made available to their communities. “Digital libraries like the Internet Archive are a crucial way to make these stories available to African readers.”

Preservation of African folklore is not just important for research purposes, but also for self-exploration and reflection. When examining African folklore, Nde often asks: “What can these stories tell me about myself?” she said. “Speaking from my own experience, African folktales are an underexplored resource for understanding the cultural history of African peoples,” Nde said. “Mythology and folklore are how people make sense of themselves as people on this planet.”

About the Author

Caralee Adams is a journalist based in Bethesda, Maryland. She

is a graduate of Iowa State University and received her master's in political science at the University of New Orleans. After working at newspapers and magazines, she has been a freelancer covering education, science, tech and health for a variety of publications for more than 30 years.

Preserving Cookbooks

by Katie Livingston

My Grann's edition of The Grady County Extension Homemaker Council's cookbook *Down Home Cookin'* is missing its front and back cover. Once made of thin, flimsy pieces of plastic decorated with an old barn and windmill, the cover has long since fallen off and some of the pages are loose. The book is held together by three red rubber bands. My Grann explains that the plastic binder got brittle and began to fall apart—the rubber bands are her solution. The pages of the cookbook are yellowed from years of use. At least three generations of women in my family, including myself, have flipped through these pages, leaving them stained with the oils from their fingers and the drippings of in-progress recipes. Most importantly to me, they scribbled in the margins. My family's edition of *Down Home Cookin'* has reached a critical mass of notes in the marginalia such that it no longer counts as a simple *copy* of a cookbook: it is my Grann's cookbook, our family cookbook. Holding it in my hands in my apartment in California (my Grann kindly agreed to mail it to me) feels off. It feels so delicate here, out of the context of her home, her kitchen, in the little cupboard where she has kept all of her cookbooks since I was a child. Now, it is more like a museum piece, something precious and precarious, meant to be handled with care, preserved, analyzed.

This sense of its history, of its fragility, of its potential for disintegrating, is why the cookbook is worth preserving, worth reading, worth moving from that little kitchen in Apache, Oklahoma, to my little kitchen in the Bay Area, to this page, to the

archive. This is why all family cookbooks are worth preserving. As time presses on, this small print county cookbook, and others like it, are becoming pieces of personal family ephemera, fading into obscurity the way that other domestic objects—bills, receipts, manuals, phone books, baby books, children's drawings, to do lists—do. Time has worked on this cookbook as my grandmother has worked from it. The pages are thin, brittle, and covered in age spots. I can imagine all the printed copies of *Down Home Cookin'* tucked away in the kitchen drawers of Oklahoma women, slowly degrading, either through excessive use or mere forgetfulness.

If these books are not scanned, digitized, and archived, we lose not only the text of *Down Home Cookin'*, but also the contributed labor and knowledge of the women who owned them.

Finding a replacement for these books is not easy. To procure a new copy, you have to mail in the old-fashioned way: to an address printed on the title page. This is the paradox of *Down Home Cookin'*: to obtain a copy of *Down Home Cookin',* one must already have a copy of *Down Home Cookin'.* If one turns to the internet for permanence and reproduction,as we are apt to do these days, little can be found. Searching now reveals a few used editions floating around on eBay and one on Amazon. Unsurprisingly, the Amazon copy is marked with notes and stains. The seller writes: "pencil writing inside front cover, black marker writing on upper corner front cover written '(pie crust p.367'), diagonal crease on bottom back cover, and a couple of yellowed (grease?) stains on bottom of a few pages."

If these books are not scanned, digitized, and archived, we lose not only the text of *Down Home Cookin',* but also the contributed labor and knowledge of the women who owned them. Clearly, the owner of the Amazon iteration was fond of the pie crust on page 367. In another version for sale on eBay, the owner inscribed the cookbook with "C Cake" and "Caret Cake" in two locations, presumably as a reminder that this particular cookbook had her

favorite carrot cake recipe.

Digitizing and archiving cookbooks challenges the assumption that a scanned book is nothing more than a poor replacement for an official ebook, something easily bought and immediately downloaded, read on a Kindle or an iPad. Scanning and archiving cookbooks documents not only their content, but also the hands that they have passed through; each copy has its own unique revisions and adjustments. Take, for instance, the annotations in the Internet Archive's scan of *A Selection of Tested Recipes*,[153] a community cookbook from Howe, Indiana. Not only does the scan capture handwritten addendums to recipes,[154] but also pages in which the owner has added her own recipes.[155] In an unused copy of this cookbook, these pages would otherwise be left blank. But the process of scanning and archiving these previously owned objects quite literally allows us to see the hand of the homemaker at work.

That history is not visible for the cookbook's digital analog: the recipe blog, perhaps the most ubiquitous means of publishing and accessing recipes today. Blogs offer little in terms of permanency and even less in terms of making the labor of recipe development visible. Though many of us have been raised on the popular phrase, "the internet is forever," recipe blogs frequently disappear from the internet. Their content is perhaps even more precarious than that of the physical cookbook, no matter how obscure. Even more troublesome: edits, revisions, addendums and the *work* of recipe formation are not made evident in the form of the recipe blog. Edits become invisible, embedded in the revision history of the backend of a WordPress document rather than made visible to the naked eye.

In the case of my Grann's cookbook, her work and trial and error are evident. The recipe takes on the feeling of a living document. Her cookbook is filled to the brim with her own clippings from news articles, her addendums, chicken scratch indicating revisions of revisions, photocopies of her mother's recipe cards, and even her assessments of various recipes (*"good,"* she says in the margins

of the Farmer's Haystack Pie recipe, *"not great")*.

The cookbook, especially the community-made cookbook, does not just represent the labor and meaning-making of a single home or a single family; it acts as a tool to bind together and co-create the identities of small groups and sub-communities. While the *Better Homes and Gardens Cookbook* has worked as a tool for nation-making (my Grann, along with thousands of other teenage girls her age, worked off that cookbook in home economics class), *Down Home Cookin'* is representative of a regionally specific cocreated identity of women and homemakers in Grady County, Oklahoma. As the political scientist Kennan Ferguson puts it in *Cookbook Politics*:

> These [community] cookbooks emphasize the material, the gustatory, the domestic, and the creative; they do so in order to regularize, communicate with, form, and inspire the women who are their presumed readers. In other words, they *intensify*. By being written, collected, sold, and passed from hand to hand, they make both the sense of belonging and the sense of community more intense (79).

The Grady County Extension Homemakers are not ignorant to the fact of their cookbook as a tool for community building and the "intensification" of certain values and goals. The book is very clearly inscribed with its intent: to help women "gain knowledge and improve their skills in home economics and related areas so that the family unit may be strengthened, develop leadership skills, provide community service, promote international understanding, and meet new people" (454). There is even a charge that members are "friendly, helpful, full of ideas, eager to learn and believe in the home" (454).

Preservation allows us to be critical and precise in our critiques of communal identity formation. It is not the case that all ideologies baked into the cookbook are ubiquitously good. Ferguson touches on how many community cookbooks seem to "reinscribe the virtues of caretaking, housework, even domestic obeisance for

both the book's audience and for the authors themselves" (79). What can, on the one hand, be read as veneration for the homemaker and her work, on the other hand can also be read as a re-inscription of traditional gender roles, the gendered division of labor, and even a certain kind of nationalism through the production and maintenance of the suburban nuclear family.

Cookbooks are not only concerned with the domestic, the familiar, and the communal, but also with the Other, the foreign, and the unknown. There is an impulse, at least in the American cookbook, to bring "otherness" into the home and domesticate it for one's own use, enjoyment, and consumption. It seems no mistake to me that the Grady Homemaker's Extension Council promotes "international acceptance" alongside reinforcing the home, or that the 90s edition of the *Better Homes and Gardens New Cookbook* seeks to include "more ethnic and regional favorites, such as stir-fries and gumbos, instead of standard meat and potato fare" (4). My Grann's cookbook contains the sections "Mexican" and "International" as a means of diversifying the offerings. And while the results are humorous (some of my favorites from this section include "Hong Kong Chicken Casserole," in which cream of mushroom soup is a key ingredient, and "Mexican Spaghetti Casserole"), one can't help but wonder what their inclusion means in the context of the whole.

While these versions of taking the foreign into the domestic can be read as a good-faith effort to seek understanding and acceptance, older cookbooks take on a more voyeuristic, exploitative tone. Otherness is a popular theme in the Internet Archives' most viewed cookbooks. Alongside the comforting title, *Things Mother Used to Make*[156] you'll also find Southern recipe cookbooks with Mammy figures on the cover[157] and Chinese cookbooks[158] whose contents offer little more than several variations on "chop suey." If we lose these cookbooks, we risk erasing legacies of racism and culinary appropriation that proliferated throughout the twentieth century. Preservation, then, is not only about venerating our cultures and communities, but also understanding our past and present and turning a critical gaze on them when necessary.

What we preserve says a lot about what we value, what we want to bring with us in the future, and what we want to leave behind (for example, I could do without a recipe for Vienna sausages rolled in barbeque sauce and crushed Fritos). The humble cookbook may at first appear an inconsequential tool of everyday home life, but in it, one can read shifting ideologies, values, and tastes. A cookbook can make clear, through a simple collection of recipes, what a community is and isn't, and what people seek to take into themselves and what they exclude. The pages of a cookbook can reveal the history of an individual, a family, a community, or a nation. It can make evident work that is often otherwise invisible or discarded. Most importantly, it can make you say (as Judie Fitch puts it in praise of her own recipe for Brisket Marinade): "This is really good."

About the Author

Katie Livingston is an English PhD candidate at Stanford University. With a focus on American literature from 1840-1940, Katie researches class mobility in the novel, women's literature, and local color/ regionalist fiction. When she isn't immersed in writing or teaching, Katie enjoys exploring the outdoors as a backpacker, hiker, and climber. She also finds joy in baking cakes, indulging in campy horror films, and spending time with her cat, Loaf.

Type Ephemera: Lessons in Endearment

by Eve Scarborough

What is type ephemera and why does it need to be preserved?

Type ephemera, specifically the kind collected by Letterform Archive, refers to paper goods used to advertise or display typefaces for purchase. Often produced by foundries, type ephemera takes many structural forms and examples including:

› **a paper folio[159] containing multiple examples of types in use, such as mock restaurant menus, travel pamphlets, concert programs and business cards.**

› **a saddle stitched book[160] with one or more typefaces, referred to as a type specimen, including examples of the upper and lowercase alphabet or shown alongside sample sentences.**

› **a small booklet[161] printed in black, red and green ink, illustrating the foundry's seasonal collection of holiday borders and ornaments.**

From an archival perspective, type ephemera is important to preserve because it captures a time when past printing technologies and methods of bookbinding were abundant. While

there are multiple organizations,[162] museums and libraries dedicated to preserving fine press and book arts, not all are accessible to everyone, and only a handful focus specifically on instruction. Thus, it is urgent for type ephemera to be digitized and remain widely available to the public, especially as interest in learning book arts and letterpress printing continues to grow. Ephemera is unique in that challenges notions of value and permanence, two ideas that dominate special collections and archives. Its temporal nature as both everyday and non-archival objects invites us to consider, and in some cases witness, how pieces of ephemera were repurposed and transformed by their makers and guardians.

It is difficult to find and name the workers who cast, set, printed, and bound the specimens that eventually made their way to the archive. At the time I was cataloging this collection, the metadata fields we used included columns to note typeface designers, foundry names, and potential partner distributors. There was also a column to include the object worktype; “metal type” appears frequently throughout the spreadsheet. As I worked, I noticed that many of the specimens were produced with acidic paper,[163] intended for immediate distribution to print shops and customers. Sometimes I would come across a pamphlet or binding that expanded unexpectedly, or made use of additional space. I began making note of the type of structure or binding for each specimen in the object description field:

“Booklet, 12 pages. Saddle stitched binding. Light blue cover. Single color printing. Black ink on white paper.”

Including the names of these structures allowed me to begin filling the gaps in knowledge. By including them, I hoped that their presence would spark curiosity among viewers and provide insight to those researching book structures. Through writing and editing metadata, I could contribute to the dialogue between the object and its makers, and lend what I knew as a book artist and archival worker to future researchers and visitors.

Many of the objects I have cataloged during my time with this collection bear signs of use: paragraphs of type circled in ballpoint pen or cut out entirely, lead-smudged fingerprints likely left by typesetters, signatures coming undone from their text blocks. These details are the most precious to me. They are instances in which an object left an impression on its reader, and in turn, its readers left a tangible impression on the object. By making note of these imperfections in the metadata, I hope to preserve the labor and relational histories of the objects, and in a way, center the people who made them. 92 years ago, typography scholar Beatrice Warde argued that good printing should aim to be almost invisible, likening the rare success to a crystal goblet[164] filled with wine (Warde 11, 13). Imperfect, dog-eared, oxidizing type specimens upend this notion, instead placing emphasis on construction and transformation rather than content. The text included in type ephemera is not meant to convey a message or narrative; rather, it is present to center and sell the type. As letterpresses are no longer the primary means of print production, new styles of letterpress printing have become popular—one example being the “bite” or heavy impression of type into paper—revealing first and foremost, the hand of the printer.

As an archivist, ephemera is endearing to me because it is a form of printed matter that is not meant to endure. Cataloging ephemera transformed the way I thought about time, decay, and value. Before entering the Archive, I favored examples of pristine letterpress printing and craft. Presently, I have grown fond of and admire the work that reminds us of our own temporality. Ephemera still holds a place in our lives, though its proliferation is diminishing as we move toward a more environmentally conscious world. Digital spaces have overwhelmingly become our personal platforms for documentation, record-keeping and more. Perhaps we live in a city that still issues paper bus tickets, or write our grocery lists on square sticky notes, or cram the free paper maps into our backpacks at the visitor center before a hike. Perhaps not. Think of the lifetimes that these objects live, crumpled into our pockets, or refused at cash registers and kiosks, waiting for their turn to be useful. How might we make meaning of, archive, or begin to transform the ephemera in our lives? What can we learn

from historic type ephemera, not just as records of printmaking techniques or bound structures, but as anachronisms of the present?

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About the Author

Eve Scarborough is a Vietnamese-American writer and book artist. Her work explores the tension between structure and content, memory and language loss, and information decay as it relates to archives. Her current practice is grounded in critical theory and craft techniques including bookmaking, letterpress printing, and hand papermaking. She holds a Bachelor of Arts in English from Mills College with a minor in Book Art. Presently, she digitizes ephemera, posters, process work, and more at Letterform Archive in San Francisco.

When Preservation Meets Social Media: Interview with Allie Alvis

by Caralee Adams

Like many in the early days of Instagram, Allie Alvis shared what they had for dinner or funny things they encountered on their personal account. It was in Edinburgh, Scotland, when pursuing their master's degree in book history that they were inspired to post about the university's incredible book collection, library and items from the used and antiquarian bookshop where they worked.

"To my surprise, people really, really enjoyed it," said Alvis, of videos and photos they curated of delicately paging through rare books. "I started getting questions from friends and family. And then it just sort of picked up steam with institutions and bookish colleagues following me. I have no idea how I ended up at 255,000 followers now."

The self-described "pink-haired book historian" mainly posts on Instagram (@Book_Historia),[165] but also is active on TikTok, X, Bluesky, Tumblr, Threads and Facebook. Alvis aims to share something new at least once a week, in addition to working as curator of special collections at the Winterthur Museum, Garden and Library[166] in Winterthur, Delaware.

Alvis said they never set out to become a super popular influencer, but they enjoy sharing their passion for rare books and

educating the public. “It’s been a crazy ride that my followers have grown to such an extent,” they said. “It really has been a grand experiment.”

“Sometimes that one book you need that one page from is just out of reach,” Alvis said. “The short-time lending option on the Internet Archive has saved me so many times. „

- **Allie Alvis**, curator of special collections at the Winterthur Museum, Garden and Library in Winterthur, Delaware

Among the most popular items they’ve recently shared: a French sample book of foil ornaments from the late 19th century. “It’s just delicious—sparkly, metal. It’s just to die for,” they said.

Alvis’s posts are filled with descriptive narration and an authentic reverence for the historic books they present. They maintain that there’s more to a rare book than what’s on its pages. There’s history behind the author who wrote it, the place where it was made, and the materials used to make it. “Because that history remains, you want to preserve it,” Alvis said. “You want to keep it in the best possible condition so other people can learn from it.”

Having materials online means that people from all parts of the world can view them without having to travel, which is good for the environment. It’s also useful in knowledge sharing and teaching to have access from beyond your local library, said Alvis, who has a bachelor’s degree in linguistics from the University of Kansas, a master’s of science in book history at the University of Edinburgh and master’s of science in information management from the University of Glasgow.

“I approach digital initiatives from an access standpoint,” Alvis

said. “I love that digitization and the Internet Archive gives more people access to stuff—and that helps to preserve it.”

Whether putting together scholarly articles or a social media post, Alvis turns to many sources in their research—including the Internet Archive. They especially appreciate the ephemeral material that it has preserved, digitized and made freely available, along with the vast collection of books.

“I have my library reference books at home and in the office, but sometimes that one book you need that one page from is just out of reach,” Alvis said. “The short-time lending option on the Internet Archive has saved me so many times.”

In their work curating decorative arts and art history, some objects are easier to capture through scanning than others. For example, it can be challenging for digital preservation to reflect the dimensionality of button samples, metal ornaments, or perfume labels. But it is useful with wallpaper samples or other flat objects. There are also limits because of the sheer volume of material and limited resources.

Alvis said librarians, academics, booksellers, and book collectors are embracing digitization and social media as tools to both further knowledge and highlight collections. Many also now understand that access is an important part of preservation.

“It would be amazing if everything could be scanned—but there is just so much of it,” Alvis said.

Still, as a librarian, Alvis said, much has been saved—and for that, they’re thankful: “It is only because previous generations have preserved this material—to the extent that they have—that I have work.”

Cultural Preservation and Queer History

by Brooke Palmieri

As a writer and artist that draws on the long history of gender nonconformity in my work, a driving force behind my practice is the idea that a longing for history will always be a fundamental aspect of humanity, so long as memory itself serves as a foundation for human consciousness. Everyone has a history, but the majority of people are not taught how to look back in order to find it. One problem is the depth and breadth of our losses. People and their prized possessions are destroyed by accident and by design throughout history: armed conflict, invasion, willful destruction, natural disaster, decay. Then there is the fantasy of destruction, a destructive force in its own right, the perception that nothing survives. *That* fantasy begets a reality of its own: because I don't go looking for what survives, I don't find it, or I don't recognize it when I see it. This is true across subcultures and among historically marginalized or oppressed groups, and for the queer and trans subjects whose histories I am interested in recovering in particular. In the twenty-first century, access to queer and trans history is an accident of birth: knowing someone in your family or neighborhood, living in a place where it isn't legislated against, going to a school that dares teach it, affording admission into one of the universities that offers classes on it.

My research process tends to triangulate between the archive of my own weird and imperfect human experiences and the debris I collect around them, small collections amassed by and for queer

and trans people, and larger institutions that also contain relevant material that begs to be recontextualized. Or to make it personal: to write my upcoming book *Bargain Witch: Essays in Self Initiation,* I used my journals and the Wayback Machine[167] to look at old websites I'd made when I was 14, the archive of the William Way LGBT center[168] in Philadelphia where I grew up, and special collections at major institutions like the Fales Library at NYU,[169] the Digital Transgender Archive[170] at Northwestern University, and the British Library[171] in London. All my adult life I've made pilgrimage between the intimate domestic spaces where people preserve their own histories, to local collections set up on shoestring budgets as a labor of love, to the vast, climate-controlled repositories of state and higher education that have more recently begun to preserve our histories, each enhancing what it is possible for me to know, delight in, or mourn, about where I have come from, the forebears by blood and by choice that imbue my life with its many possibilities.

Classically, archives are brutal, desolate places to find humanity; they were never meant to record the nuances of flesh and blood existence so much as they originate as a way governments keep track of their resources.

It's a creative act to find and make sense of my own history, one that requires a leap of faith in order to fill in the silences, erasures, omissions, and genuine mysteries that old books and documents, records and artifacts, represent. A lot is left to the imagination. Much of what survives from the past asks more questions than we can answer. This is true for queer and trans archival traces, as it is for other aspects of humanity that are poorly accounted for in public records, or actively discriminated against through surveillance and omission in equal parts.

Classically, archives are brutal, desolate places to find humanity; they were never meant to record the nuances of flesh and blood existence so much as they originate as a way governments keep

track of their resources. It has taken millennia for us to conceive of records as places where humanity might be honored rather than betrayed. This is an epic change: I am in awe of the fact that I live in a time where the heft of documentary history—clay, parchment, paper, and now pixel—is shifting paradigms from records kept by anonymous paid laborers to flatten life into statistics, to records kept by people who dare to name themselves and their subjectivity, who collect something of themselves and their obsessions, for other kindred spirits to find. From archives as places meant to consolidate power, to places containing mess and sprawl, places for heated encounters.

In the past few decades of "living with the internet" these places and encounters have multiplied exponentially, as queer and trans subcultures have relied on message boards, blogs, and personal websites to share information. I personally relied (and still rely on) on reddit, and the classic, Hudson's FTM Resource Guide (www.ftmguide.org),[172] and TopSurgery.Net to navigate the healthcare system in both the UK and USA in order to access hormones and surgery—part of a much longer tradition of "the Transgender Internet" that Avery Dame-Griff chronicles in his book *The Two Revolutions* (2023). To say nothing of AOL in the early 2000s, the culture on Tumblr in the early-to-mid 2010s[173] and printed publications like *Original Plumbing*[174] and archived copies of the *FTM Newsletter.* Digital environments informed me of physical places, and vice versa, and each expanded and embellished my appreciation of the other. From reading books and trawling the internet, I knew places like San Francisco, New York, London, and Berlin would be where I could find other trans people. When I moved to London, I knew to go to Gay's the Word,[175] a queer bookshop that first opened in 1979, to make friends, and eventually, to get a job. When I started my own queer book club, or wanted to find zine fairs or club nights, I often found information about them on tumblr or instagram. When traveling to new cities, a gay friend tipped me off that any place recommended by *BUTT Magazine*[176] would show me a good time.

But in my queer and trans context, both digital and paper-based archives and libraries are often labors of love, made from scratch,

published with a “by us for us” ethos that is under-resourced and so always in danger of disappearing. Most queer publishing from the 1960s onward was issued in small, independent presses that have disappeared. An interesting model for documenting this is the British Library’s Endangered Archives Programme,[177] where resources and expertise is shared to catalog and digitize collections materials in a centrally kept database. This is mutually beneficial to the places where the materials are kept—accurate cataloging is crucial to using and developing any archive—as well as to interested audiences further afield. And this feels also like a pragmatic approach to the reality of loss: we might not be able to predict what will survive over time, but keeping abundant records in multiple locations of what has existed will at least allow us to mourn our losses.

A culmination of my interests in hunting and gathering queer history is my imprint and traveling installation: CAMP BOOKS. I started CAMP BOOKS in 2018 as a way to highlight the places I’d most enjoyed meeting queer and trans people–independent bookshops, which have a rich, radical history throughout subculture–and as a way to keep the focus on making and distributing publications about the obscure histories I was unearthing in my research. Before libraries sought to cater to an LGBTQIA+ readership, specialist bookshops like the Oscar Wilde Memorial Bookshop,[178] Giovanni’s Room,[179] and Gay’s the Word were the only places you could find concentrations of queer, feminist books with positive portrayals of queer lives. These shops were hubs of culture: places where community events were held and publicized, activists groups were able to meet, and friendship and romance could blossom in broad daylight. CAMP BOOKS sets up pop-up bookshops, tables at art and zine fairs, and also builds installations in galleries and community spaces to continue this tradition. I also sell rare books and ephemera related to queer history through CAMP BOOKS in order to fund our efforts, including new publications, zines, and posters related to queer and trans history. The CAMP BOOKS motto is: “Queer Pasts Nourish Queer Futures,” and this extends to our model of generating funds from past efforts to fund new writing and work. I also believe this logic can extend to anyone: preserving what

interests you about the past brings a particular pleasure of connection into the present. Most of the people I have loved in my life, I have met and known through shared obsessions with the past, and it has brought a lot of pleasure and adventure into my life.

An abiding concern I have had about cultural preservation—in my case, subcultural preservation, because the people I love across time existed in a myriad of DIY subcultures that often cross-pollinated art, music, and literary influences—and have heard from others, revolves around the question of inheritance and access. You can inherit books and papers, art and artifacts, but you can't inherit e-books, and born digital archives require specialist care and technology. My hope is that this divide is bridged by reconsidering the nature of inheritance itself: rather than an individual's gain, queer and trans history is something that we are all heir to, and can all benefit from accessing. Large institutions, and large digital repositories in particular, play a crucial role in rewriting the meaning of inheritance by offering freely accessible, and accurately cataloged, information. But ultimately, archives that document human experience begin at home, and rely on people whose love for their lives, their friends, and their scenes inspire them to save posters, photographs, and other receipts – online and offline – that document their experiences. I hope after reading this, you start saving something of your life now.

About the Author

Brooke Palmieri is an artist and writer working at the intersection

of memory, history, and gender-bending alternate realities. In 2018, Brooke founded CAMP BOOKS, promoting access to queer history through rare archival materials, cheap zines, and workshops/ installations. His book, *Bargain Witch*, is published by Dopamine Books. You can find out more at http://bspalmieri.com.

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152 ■ https://web.archive.org/web/20241005204525/https://en.wikipedia.org/wiki/User:Laurakgibbs

153 ■ https://archive.org/details/a-selection-of-tested-recipes/

154 ▪ https://archive.org/details/a-selection-of-tested-recipes/page/5/mode/2up

155 ▪ https://archive.org/details/a-selection-of-tested-recipes/page/n75/mode/2up

156 ▪ https://archive.org/details/cu31924001758576

157 ▪ https://archive.org/details/southernrecipes00junirich/page/n5/mode/2up

158 ▪ https://archive.org/details/chinesecookbook00gals/page/n1/mode/2up

159 ▪ https://oa.letterformarchive.org/item?workID=lfa_type_0628&targPic=lfa_type_0628_001.jpg

160 ▪ https://oa.letterformarchive.org/item?workID=lfa_type_1592&targPic=lfa_type_1592_004.jpg

161 ▪ https://oa.letterformarchive.org/item?workID=lfa_type_1665&targPic=lfa_type_1665_001.jpg

162 ▪ https://web.archive.org/web/2024 1008000205/https://www.philobiblon.com/programs.shtml

163 ▪ Acidic paper refers to paper manufactured with acids, a method that became popular in the mid-nineteenth century. The long cellulose chains in paper degrade slowly over time due to prolonged exposure to air, but the presence of acids catalyzes the process significantly. The presence of acid impacts the paper's longevity, making it brittle and more susceptible to tearing.

164 ▪ https://archive.org/details/dli.ernet.523734/523734-The%2520Crystal%2520Goblet.pdf

165 ▪ https://www.instagram.com/book_historia

166 ▪ https://web.archive.org/web/2024 1005204324/https://www.winterthur.org/exhibitions-and-collections/library/

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170 ■ https://web.archive.org/web/20241016000000/https://www.digitaltransgenderarchive.net

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News

Keeping The Receipts

by Maria Bustillos

On August 13, 1961, the Sunday edition of *The Honolulu Advertiser* published its official Health Bureau Statistics ("Births, Marriages, Deaths"); on page B-6, in the leftmost column—just below the ads for luau supplies and Carnation Evaporated Milk—the twenty-second of twenty-five birth notices announced that on August 4, Mrs. Barack H. Obama of 6085 Kalanianaole Highway had given birth to a son. The Honolulu State Library subsequently copied that page, along with the rest of the newspaper, onto microfilm, as a routine addition to its archive. Decades later, as Donald Trump and his fellow "birthers" tried to deceive the public about the birthplace of the 44th president, researchers were able to read the item in its original, verified context, preserved on its slip of plastic film.

A dramatic fate like that one awaits very few reels of microfilm, but the story underscores the crucial importance of authentication, and of archiving. Verifying and making sense of records—books, photos, government documents, magazines, newspapers, films, academic papers—is a never-ending task undertaken not only by historians but also by researchers, journalists, and students in every branch of learning: in the sciences, in medicine, in literature and philosophy and sociology. This is scholarship—the job of sieving over and over through the past, to research the truth of it, to reflect on and comprehend it, in the hope of providing people with useful observations, ideas, and help. That's why we need records as detailed and accurate as we can make them; that's the ultimate value of librarianship and archival work.

When people foolishly—and even dangerously—imagine that the past won't matter to the future, the chance to preserve history evaporates. We live in times of increasing book bans and censorship and fast-deteriorating online archives. Some writers are even willing to deny the lasting value of their own work, shrugging off its place in a unique cultural moment. In July, when the archive of MTV News was summarily vaporized,[180] contributor Kat Rosenfield wrote dismissively[181] of her own work there:

> So much of what we—what *I*—produced was utterly frivolous and intentionally disposable, in a way that certain types of journalism have always been. The listicles and clickbait of early aughts culture may differ in many ways from the penny press tabloids of the 1800s, but in this, they are the same: They are meant to be thrown away.

It's a shocking thing, to hear a journalist say that the writing of the 19th-century penny press was "meant to be thrown away." The rise of the penny press[182] represents a key moment in the democratization of media; Benjamin Henry Day,[183] founder of the first such newspaper in the U.S., *The New York Sun* ("It Shines For All"), is a towering figure in the history of journalism. (His son, Benjamin Henry Day Jr., invented Ben-Day dots!)[184]

Day offered nonpartisan newspapers at a cheap price to a mass working-class audience—a fascinating mix of hard-hitting news, sensationalistic crime reports, and plain whoppers. *The Sun* ran a deranged report of winged people living on the moon,[185] and it also broke the story[186] of the Crédit Mobilier/Union Pacific corruption scandal in 1872, which brought down a whole herd of Republican congressmen, plus then-Vice President Schuyler Colfax. Day's rivals, James Gordon Bennett and Horace Greeley, founders of *The Herald* and *The New York Tribune*, respectively, were no less momentous figures in the history of news media. Their sociological, cultural and political impact reverberates still: Bennett's racist, segregationist views[186] were hot issues in a *New York Times* story published just a few years ago, and a kaleidoscopically weird July op-ed[188] in the *Idaho State Journal*

called vice presidential candidate JD Vance “A Horace Greeley for Our Century,” despite the fact that Vance is a far-right reactionary conservative, in sharp contrast to Horace Greeley, who held openly socialist, feminist, egalitarian views.

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Pace Rosenfield, we can count ourselves fortunate that the Internet Archive’s Wayback Machine has preserved nearly half a million articles at MTV News;[189] because of the Wayback Machine, future readers will have access to primary source materials on Peter Gabriel’s social activism,[190] MTV News’s Peabody Award-winning “Choose or Lose”[191] voter information campaign, early coverage of the allegations against pop icon Michael Jackson[192]—and all the details and facts that will be available to provide crucial background and verification for stories we can’t yet imagine.

The MTV News archive joins the archives of Gawker, the *LA Weekly*, and many other shuttered digital-native publications that would have disappeared entirely from the internet but for the Wayback Machine. Many leading journalists have greeted the Wayback Machine’s archival efforts with relief, and not only because it means preserving access to their own clips. They want all the receipts to be kept.

Tommy Craggs, a former executive editor at Gawker, expressed this idea back in 2018:[193] “There should be a record of your fuck-ups and your triumphs, too.” He viewed Gawker’s archive as a valuable “record of how life was lived and covered on the internet for an era. Taking that away [would be] leaving a huge hole in our understanding.”

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What we call history is only the Now of an earlier time, recorded

and preserved as best we can and reconsidered afterward. There is no complete and knowable record of any part of the past, no magical, permanently accurate “history.” The records we are keeping now—filled as they are with contradictions, uncertainties and errors—are all that tomorrow can inherit from today. Each teeming, incoherent moment succeeds the last, Now upon Now, wave upon wave of recordings and photographs, testimonials and accounts—true, false, and everything in between—gathered together by librarians and archivists and hurled forward like a Hail Mary pass into the future.

In other words, nothing is “meant to be thrown away.” Nothing. People may someday want to look into what happened in any part of the world, among any of its people, at any time; and every researcher, reader, and writer will have their own ideas, ideas that we might find incomprehensible now, about what’s worth keeping.

About the Author

Maria Bustillos is an editor and journalist in favor of equality, press freedom, libraries, archives, beauty, and fun.

Preserving TV News in an Age of Misinformation

by Claire Wardle

So much of the discussion about misinformation focuses on the ‘problem’ of people sharing false information unknowingly, the idea that ‘Uncle Bob’ is polluting conversation around the dinner table or disrupting the family group chat with conspiracy videos. The dominant discourse around misinformation also tends to over index[194] on the impact of bots or troll accounts, or grifters trying to make a quick buck using lies and falsehoods. But what the research tells us is that the most serious and impactful offenders are elites[195] (mostly politicians, celebrities and journalists). Because too often what politicians or celebrities say or post on social media gets amplified not just on the platforms but via the mainstream media, with television often providing the biggest audiences.

That’s why we need a record. It’s why we need an archive. As someone who studies misinformation, I already know the challenges[196] of finding examples of misinformation on the platforms. Whether it’s shutting down researcher access or sunsetting platforms like Crowdtangle,[197] it’s harder than ever. And if we want to understand the mechanisms by which misinformation moves through the information ecosystem, we absolutely need the ability to search archives of television, radio and print (both newspapers as well as digital outlets—many of which we’re seeing shutting down without archiving the site).[198]

In 2021 I did some research,[199] in partnership with the Internet Archive where we identified the amount of time 24 hour TV news showed misleading Trump tweets full-screen (without warnings or labels). The results demonstrated very clearly how much these mainstream outlets were amplifying and giving legitimacy to misinformation coming from the highest levels. I'm writing this in early August 2024 (August 8 to be precise) and over the past few hours, there have been two cases of very high profile personalities sharing misinformation. The first was Elon Musk, the owner of X, who decided to weigh in on the riots currently taking place in different UK towns with racists targeting immigrants and asylum seekers. Musk retweeted[200] a fabricated headline suggesting some caught up in the violence would be deported to detainment camps on the Falkland Islands. While the headline did look like it was from a legitimate newspaper, (The Telegraph), as we all know, when we see something that sounds off, you need to check. Mr. Musk did not do that and shared this falsehood with almost 200 million followers. He soon deleted his post, (although it still received at least 2 million views) but fortunately a couple of quick-fingered journalists captured screenshots. Without that, the role of X's owner adding fuel to an already tinderbox situation in the UK would have been lost.

The other high profile person to spread falsehoods as I sit and write this piece is former president Donald Trump. At a press conference at Mar-a-Lago, he made a number of false claims, including one in which he stated that the crowds at his January 6, 2021, speech were bigger[201] than the crowds who witnessed Martin Luther King Jr.'s 'I have a dream' speech in 1963. The clip of him saying so was carried live by all major US television networks. At one level, in the context of all of Trump's falsehoods (from claims that the 2020 election was stolen, or that bleach could cure Covid), does this falsehood matter? Is this the falsehood I should include in a piece advocating for TV archives?

The answer is yes, because we need to archive as much television as possible from the major networks to those like Newmax and OANN, to local television as well as local access television.

Because understanding history is about understanding patterns, not just instances. Trump has an issue with crowd sizes. On his very first day in office, during the first press conference, his press secretary, Sean Spicer, came out swinging on behalf of his new boss, boasting incorrectly about the crowd size at his Inauguration[202]—and we've continued to see that obsession. Without archiving, we can't see patterns. Fleeting examples get lost and we miss the connections. What does Trump's obsession about crowd sizes highlight? What does it help to explain?

I'm a journalism studies nerd. While doing research for my PhD dissertation, I spent months in the London newspaper library and then the New York Public Library scrolling through microfiche rolls for hours, looking at coverage of crimes from the 1930s, 60s and 90s. As I looked for my keywords and the articles I knew about, I stumbled across all sorts of things (the photographs used to illustrate stories or the placement of the stories on the page), things that I couldn't have known if it was a line in a csv file or a contextualized text file. I know the power of news archives where you can see everything about how it was consumed originally.

Print newspapers—for the most part—have been digitized, and it's extraordinary what I could do now compared to my PhD fieldwork of 2002-3. But with TV news, we're just not there. We're in the middle of an historic political campaign. I can only imagine how historians and students of politics will obsess over this time period, whether the focus is on bold pronouncements made by the candidates, or the misinformation that is swirling. And whether the statement is made on television, or made via a Tweet or an Instagram post and then covered on television, we need to understand that coverage and how information is moving through the ecosystem. We need to be able to search via keyword or image. We need to be able to play back clips with the transcript fully searchable. Right now we don't even know what will be fascinating, important or just interesting to our future selves and future generations.

Our information ecosystems have never been so complex, and

our methods of collecting and studying those ecosystems so limited. In a perfect world, I'd want us to be able to study what everyone is saying and sharing publicly, but for right now, can we at least prioritize those running for the highest office and those running our most powerful companies? It's unbelievable that we can't.

About the Author

Claire Wardle is an Associate Professor in the Department of Communication at Cornell University. She was the co-founder of the nonprofit First Draft, which helped organizations tackle the challenges of misinformation. The organization closed in 2022 but the website[203] is archived by the Internet Archive.

The DuMont Network: America's Vanishing Television History

by Taylor Cole Miller, PhD

The nesting material of my university office is blank VHS tapes. A few of these tapes were well-worn security blankets with comforting shows I watched over and over to propel myself through childhood and adolescence. Where normal people might have held onto a cherished dolly or baseball glove as nostalgic trinkets of their youth, I kept my jumpy copy of CBS' live-action *Alice in Wonderland* along with episodes of *The Golden Girls, The Oprah Winfrey Show*, and *Xena: Warrior Princess*. These artifacts, the ones I clung to growing up, eventually became the foundation of my research as a media historian. While writing my master's thesis, a media ethnography of rural gay men, you'd find me at garage and estate sales every month asking if there were any old VHS tapes of *Oprah* lying around. And in order to even access episodes of his short-lived show, *All That Glitters*, for my doctoral dissertation, I had to become friendly with and visit producer Norman Lear himself to watch shows in his personal archive. Television culture is inextricably linked with American culture, but most early television is lost forever, a vanishing era of our culture with few traces.

As a scholar, my specific area of interest is television syndication —the practice of selling content directly to local stations and station ownership groups without going through a network. The stations can air these shows at whatever time and with whatever frequency they desire. There are two primary types of syndication: First-run syndication such as talk shows like *The Oprah Winfrey Show* or *Ricki Lake*; game shows like *Jeopardy* or *Wheel of Fortune*; court shows like *Judge Judy* or scripted originals like *Xena: Warrior Princess* or *Star Trek: The Next Generation*. And second-run syndication, most often referred to as reruns of popular shows. This means my objects of study are often limited by what is available and how. Many television shows from the last 50 or 60 years have been officially released on physical media like VHS, Betamax, LaserDisc, or DVD, or made available via streaming or on-demand services, but these are primarily primetime network or cable programs, not daily syndicated talk shows, game shows, public affairs programs, or kids' TV. Despite its own ephemerality, syndication remains television's best archivist: It preserves shows that can still turn a profit in reruns, even if it doesn't always ensure their accessibility or proper care. While syndication keeps certain programs alive in archives, they often remain unaired or improperly preserved without enough demand. Those that no longer generate revenue, no matter how innovative, tend to disappear—left to decay on shelves or locked away in obsolete formats under the weight of copyright restrictions–or worse. One of the most tragic examples of this

vanishing culture, allegedly twenty feet below the surface of the Upper New York Bay, is the lost archive of the DuMont Television Network.

DuMont Television Network

In television's beginning, three familiar companies expanded their operations from radio: NBC, CBS, and ABC. But there was also a fourth company competing with these fledgling television efforts—DuMont, a television and equipment manufacturer that contributed numerous innovations in the technology of TV itself. Although big commercial television was still years away, DuMont was selling television sets by the 1930s. Its 1938 set, for example, the DuMont 180, featured a massive 14-inch screen and retailed for $395-445. To help sell his sets, Allen B. DuMont opened an experimental television station (W2XVT), which operated programming that the showroom models could display to demonstrate picture quality, a practice that continued with the launch of the commercial DuMont Network in 1946.

That year, DuMont gave the greenlight to the half-hour show, *Faraway Hill.* Although "firsts" are hard to claim given that much of early TV history is lost, *Faraway Hill* is often thought to be the first

network television soap opera. The show was created by David P. Lewis, who adapted it from his unfinished novel. According to Elana Levine in her history of soaps, *Her Stories*, like with radio soaps before, the show included “stream-of-consciousness” style voice-overs that allowed women to look away as needed under the social expectations of household duties. As reported in his obituary,[206] Lewis said DuMont was desperate for programming, particularly during the nine hours of weekly programming it aired in competition with NBC. The show aired only ten episodes, and reportedly made no money, with Lewis claiming he did it to “test the mind of the viewer.” Through *Faraway Hill*, Levine argues that DuMont “experimented with visuals, including set changes, establishing shots, and some visual effects while, narratively, it tried a recapping strategy that would become a fixture of daytime TV soaps, repeating the last scene of the previous episode as the start of the next.” A second soap effort, *A Woman to Remember*, ran daily for five months in 1949, with half of that run appearing in daytime. Although *Faraway Hill* is recognized as the first primetime television serial—a format that would define all Primetime Emmy winners for Outstanding Drama Series in the 21st century—it has vanished because DuMont broadcast it live and, as far as we know, never recorded it.

Faraway Hill wasn’t the only first in its genre from DuMont. The network also aired *Captain Video and His Video Rangers* from 1949 to 1955, considered the first popular sci-fi television show and DuMont’s longest-running program. If you’re a fan of television comedy, you can thank *Mary Kay and Johnny*, often thought to be the first network sitcom—a multicamera comedy that premiered on DuMont in 1947. DuMont was also the first network to broadcast the NFL championship game in 1951, launched Jackie Gleason’s career, and aired the Army-McCarthy hearings in 1954.

Also lost to history is DuMont’s *The Gallery of Madame Liu-Tsong* in 1951, featuring legendary actor Anna May Wong in probably the first American television series with an Asian-American lead.

While television was predominantly white at the time, DuMont produced pioneering shows led by women of color. In 1950, the phenomenally talented Hazel Scott likely became the first Black woman to host her own television show, decades before Oprah Winfrey's debut in national syndication. *The Hazel Scott Show*, which aired thrice weekly on DuMont, showcased Scott—a piano prodigy and accomplished musician who had won an early Civil Rights case–a racial discrimination lawsuit against restaurateurs Harry and Blanche Utz in February 1949. However, after she was blacklisted in *Red Channels* (a publication that accused entertainers of communist sympathies during the McCarthy era), a smear campaign led to the show's cancellation, and Scott's groundbreaking contributions to early television history have largely been forgotten.

Also lost to history is DuMont's *The Gallery of Madame Liu-Tsong* in 1951, featuring legendary actor Anna May Wong in probably the first American television series with an Asian-American lead. Wong's character was an art dealer whose investigative art history skills also helped her become a crime solver. There are no known recordings or even scripts of the show still in existence. The only information we have on these programs is what remains of it in schedules and TV listings. For this article, I audited several TV History textbooks from respected scholars, and I could find no mention of either *The Hazel Scott Show* or *The Gallery of Madame Liu-Tsong*.

DuMont Television collapsed in 1955 after clunky UHF (Ultra High Frequency) regulations hammered the final nail in its coffin. These rules limited the reach of UHF stations, putting DuMont at a disadvantage compared to the more accessible VHF (Very High Frequency) channels. Still, before its demise, DuMont produced a rich schedule of innovative programs—many of which may never be seen again. According to testimony in a report for the Library of Congress,[207] DuMont's television archive was intentionally destroyed as a result of the negotiations of a sale in the 1970s. Reportedly, the parties were concerned about who would be responsible for the sensitive archival needs, like temperature control, of such a massive collection. In the report, Edie Adams, a

talented performer and a key figure at DuMont, along with her husband Ernie Kovacs—who hosted his own show on the network—shared what she heard about its demise while trying to archive her husband's career. "At 2 a.m., [one of the lawyers] had three huge semis back up to the loading dock […] filled them all with stored kinescopes and 2" videotapes, drove them to a waiting barge in New Jersey, took them out on the water, made a right at the Statue of Liberty, and dumped them in the Upper New York Bay. Very neat. No problem." While this is the commonly reported lore of DuMont's demise, no one really knows for sure what happened. Could some materials still exist? True or not, DuMont's metaphorical watery grave nevertheless serves as a poignant reminder for how easily traces of our past can vanish.

DuMont Network and the Internet Archive

The Internet Archive is an important repository where saved DuMont programs have been collected and made available to the public. Many of these programs survive from personal collections of performers or producers who kept copies in their personal files. The Internet Archive houses a few surviving examples of DuMont

programming, including clips from *Cavalcade of Stars*, where *The Honeymooners* and Jackie Gleason made their first appearances in sketches. The archive also includes *Okay, Mother*, a game show that premiered in 1948, and one of the earliest daytime network TV shows, with one surviving episode available to watch.

Also in the Internet Archive are one or a few episodes each of DuMont shows now in the public domain, including *The Adventures of Ellery Queen, The Arthur Murray Show, Flash Gordon, Front Page Detective, The Goldbergs, Hold That Camera, The Johns Hopkins Science Review, Kids and Company, Life is Worth Living, Man Against Crime, Miss U.S. Television Grand Finals, The Morey Amsterdam Show, The Old American Barn Dance, On Your Way, Public Prosecutor, Rocky King- Inside Detective, The School House, Sense and Nonsense, Steve Randall, They Stand Accused, Tom Corbett- Space Cadet, Twenty Questions*, and *You Asked for It*.

Beneath the surface of the Upper New York Bay might rest DuMont's legacy, forgotten by most but not entirely lost. But while its kinescopes may have submitted to a watery grave, the efforts of open-access archives like the Internet Archive—storing the personal collections of those who saw value in preserving their histories—offer glimmers of hope. Perhaps, like my cherished collection of VHS tapes, some forgotten episode, script, or production material is still out there, waiting to be discovered, languishing in an old filing cabinet, on a neglected shelf, or in a dusty attic. Or maybe we'll unearth some other unknown broadcast treasure in the search. With the ongoing work of archivists, collectors, and historians, maybe we can work to piece together the remnants of America's vanishing early television history and provide to future generations. I want to believe.

About the Author

Taylor Cole Miller is an Assistant Professor of Media Studies at the University of Wisconsin-La Crosse and a media history content creator under the handle tvdoc. His research focuses on television histories, syndication, and queer media studies and can be found in journals like *Camera Obscura* and *Television and New Media* as well as numerous anthologies and popular press outlets. He is co-editor of the collection *The Golden Girls: Tales from the Lanai* from Rutgers University Press.

On Television News and Entertainment

by Jeff Ubois

Film, television, and other video production has long outpaced the collective capacity of libraries, museums, and archives to ensure long term access to it. And now, efforts to collect and preserve television are facing new obstacles from streaming services, market concentration, and current law.

Nearly thirty years ago, Librarian of Congress James H. Billington noted[209] that “Television affects our lives from birth to death...Sadly, we have not yet sought to preserve this powerful medium in anything like a serious or systematic manner.” Much has changed since the 1990s. Petabyte-scale digital television and video archives and collections now support millions of users. Television and video have shifted from Television is far less bound to physical media such as tapes and DVDs than it was, and the shifts from analog to digital, tape to disk, and broadcast to streaming and the web are well advanced. Many entertainment programs that were unavailable twenty years ago, are now available for purchase.

Still, it’s unclear how much collection, preservation, or access to what’s on television today has improved since Billington made his point in the 1990s. Access to streamed programs now requires explicit acceptance of licensing restrictions, which was not needed for off-air recording, and the platforms that host television

programs now can take them down at any time; Paramount recently removed decades of MTV and Comedy Central content from public view.

Production and distribution of entertainment television has become concentrated to a degree not seen in years. Ampere Analysis,[210] a U.K.-based market research company, estimates that Netflix and Amazon commissioned 53% of all new original television entertainment in the first quarter of 2024. The terms and conditions imposed on views and archives by these services are shockingly restrictive, and go well beyond current law. Netflix specifically prohibits “archiving” and “automated means to access the Netflix service” (see Netflix Terms of Use,[211] section 4.6).

Playback in an archival setting is therefore out of the question, and many other elements in the terms and conditions associated with streaming services can be difficult to understand. For example, the Amazon Prime Video Terms of Use[212] stipulate in Section 4, subsection c, paragraph three “If you live in Germany or Austria (or German or Austrian law applies for other reasons) sentence 1 in this Section 4(c) does not apply and the remainder of this section 4(c) applies instead.”

While Amazon and Netflix might preserve this content in their own archives as long as it has some economic value to them, there is little reason to think these organizations are suitable long term custodians. The record, movie, and television companies of decades past have all lost or abandoned what is now regarded as important footage.

News archiving faces additional problems, including active opposition by news organizations. The first large scale television news archive, the Vanderbilt Television News Archive, was sued by CBS in 1973 (see From Conspiracy to Conservation: Television News Archive marks 50th anniversary).[213]

It would be a mistake to claim that the technological aspects of television archiving are now mostly settled. Provenance, deep fakes, digital rights management, format shifts, and other issues will continue to create new barriers to ensuring long term access.

Though the “Vanderbilt Clause” (17 U.S. Code § 108 (f)(3)) allows archives to record news broadcasts and loan a limited number of copies for a limited amount of time, the shift to streaming has been used to impose new terms and conditions. For example, Philo, a streaming news service that includes material from BBC and Bloomberg, states that “Video Content on our Services may be viewed only through your Account and cannot be transferred outside of your Account.”[214] Violation of these license terms is now a matter of criminal, not civil, law: the Protecting Lawful Streaming Act of 2020 makes the provision of “illegal” streaming services a felony.

It would be a mistake to claim that the technological aspects of television archiving are now mostly settled. Provenance, deep fakes, digital rights management, format shifts, and other issues will continue to create new barriers to ensuring long term access.

But amidst all the threats to ensuring long term access to television and video, the legal issues are the hardest of all. Legislative relief of the kind offered to Vanderbilt in the 1970s seems unlikely. Sustaining public interest legal activities to guarantee that archives can continue to collect, preserve, and provide access to video content will require tens of millions of dollars annually for the foreseeable future. While commercial services such as YouTube will continue to make video available, a set of trustworthy, well-curated, comprehensive, and socially beneficial television archives may be as far off as ever.

About the Author

Jeff Ubois has worked with the Internet Archive since 1996, and serves on the boards of Better World Libraries and the Kahle/Austin Foundation. Jeff co-founded Lever for Change, a John D. and Catherine T. MacArthur Foundation affiliate that has helped award more than $2.5 billion in charitable donations, and has worked for other organizations focused on digital media and innovation, including UC Berkeley's School of Information Management and Systems, the Netherlands Institute of Sound and Vision, and the Preserving Digital Public Television Project.

Q&A with Philip Bump, *The Washington Post*

by Caralee Adams

Philip Bump is a columnist for *The Washington Post* based in New York. He writes the weekly newsletter How To Read This Chart. He's also the author of *The Aftermath: The Last Days of the Baby Boom and the Future of Power in America*.

? What does it mean for an individual journalist to have their work preserved? Why is it important to have easy access to news stories from the past?

One of the nice things about my career has been that I've worked for outlets that I feel confident are doing their own preservation, like *The Washington Post*. I'm not particularly worried about losing access to my writing. However, it's less of a concern for me than it is for other outlets, unfortunately. It is unquestionably the case that I find the Internet Archive useful and use it regularly for a variety of things—both for its preservation of online content and collection of closed captioning for news programs.

? Any recent examples of when you've found the Internet Archive particularly useful?

I use the search tool on closed captioning more than anything else. The other day I was trying to find an old copy of a webpage. I was writing about Donald Trump's comments on Medal of Honor recipients. As it turns out, there is not an immediately accessible resource for when Medals of Honor were granted to members of the military. You can see aggregated—how many there are—but you can't see who was given a medal and when they served. I actually used the Internet Archive to see how the metrics changed between the beginning of Trump's presidency and by the end of it. I was able to see that there were medals awarded to about 11 people who served during the War on Terror, three who served in Vietnam, and one during World War II. Then, I was able to go back and double check against the Trump White House archive, which is done by the National Archives, and see the people to whom he had given this award. That's a good example of being able to take those two snapshots in time and then compare them in order to see what the difference was to get this problem solved.

? Why is it important for the public to have free public access to an archive of the news for television or print?

It's the same reason that it's important, in general, to have any sort of archive: it increases accountability and increases historical accuracy. The Internet Archive is essential at ensuring that we have an understanding of what was happening on the internet at a given point in time. That is not something that is constantly useful, but it is something that is occasionally extremely useful. I do a lot of work in politics and get to see what people are saying at certain points in time, which

are important checks and accountability for elected officials. The public can know what they were saying when they were running in the primary as compared with the general [election]. The Archive allows anyone to be able to get information from websites that are no longer active. If you're looking for something and you have the old link to Gawker or the old link to a tweet, you can often [find] it archived. The Internet Archive doesn't capture everything—it couldn't possibly do so. But it captures enough to generally answer the questions that need to get answered. There's nowhere else that does that. There are other archiving sites, but none that do so as comprehensively, or none with an archive that goes back that far.

? Has any of your journalism vanished from the public? Do you have any examples where you've been looking for something and it's been missing?

Yes. One of the challenges is that multimedia content has often, in the past, been overlooked. There are old news reports that I've been unable to find because they're on video in the era before there was a lot of accessibility and transcripts. Therefore, yes, there are certainly things like that which come up with some regularity. Also, particularly in the era of 2005 to 2015, there were a lot of independent sites that had useful news reports—particularly since we're talking about the cast of political characters that have been around in the public eye at that point in time. It's often the case that it's hard to track those things down. Or if you're trying to track down the original source or verify a rumor, you might need to dip into the Archive. There are a lot of sites from that era of

“bespoke” blogs that the Internet Archive often captures them in order to see what the difference was to get this problem solved.

? How does limited access to historical data or previous coverage impact you as a journalist?

It is hard to say, because relatively speaking, I am advantaged by the fact that I live in this era. If I were doing this in 1990, [I’d use] basically whatever was at the New York Public Library and on microfiche. It is far better than it used to be, but the amount of content being produced is also far larger. It is both a positive and a negative that it is far easier to do that sort of research here from my desk at home than it would possibly have been 30 years ago. In fact, I was working on a project where I relied heavily on a local newspaper in a small town in Pennsylvania that wasn’t available online. I literally had to hire someone in the town to go to the library, find [coverage from] the particular date and the local paper and to get the scans done. It cost me hundreds of dollars, but that was the only way to do it. You can see how getting these things done is problematic and challenging.

? When Paramount deleted the MTV News Archive in June, there was a lot of dismay, but some say it was frivolous, disposable, and kind of meant to be thrown away. How do you feel about that?

My first writing gig online was at MTV News in college, so that actually had a personal resonance for me. I was at Ohio State in the early to mid

1990s, and I got this little internship with MTV News. I wrote one piece about this band called The Hairy Patt Band. It ended up on the MTV News website. I was very excited. I haven't seen that in 30 years. It's one of those things where I wondered what ever happened to that story or if it exists anywhere, in any form. So, that [news] actually had resonance. It's a bummer. Is it as important to maintain the archives of MTV News as it is *The Washington Post*? I'm biased, but I would say, no. But it is still a loss of culture—and it is a unique loss of culture. This was a unique and novel form of information that was emergent in the 1990s and now is lost. In the moment, its very existence captured the culture in a way that is worth preserving.

? How do you feel about the future of digital preservation of news, data, and information?

I'm more pessimistic than I used to be. I came of age with the internet. When it was new, I used to describe it as the emergence from a new dark age. We had all this information and there was no more going back. All this existed. Everything was online, and we had archives. Now, we see, in part because the scale has increased so quickly that economic considerations come into play, and all of a sudden… the internet isn't just an endless archive anymore. There are very few places that are doing what libraries do to capture these things on microfiche or store books for the public's benefit. There is so much of it and that becomes the problem.

? Why is it important to pay attention to this issue and preserve journalism for future reporters?

It is obviously the case that we are creating information, culture, and benchmarks for society faster than we can figure out how we're going to make sure they're preserved. I think that's probably always been the case, except that what's different now is that we are more cognizant of the process of preservation and the challenges of preservation. We expect there to be this thing that exists forever. We don't yet know how to balance the interest in having as few things be ephemeral as possible, versus the value in doing that… maybe it's not even possible to preserve everything in the way that we would want to at scale. We have created a process by which it is possible to record and observe nearly everything, and now we're realizing that that is potentially in conflict with our desire to also store and preserve all this information indefinitely.

? Anything you'd like to add?

I think it's worth noting that preservation is one of the few areas in which I think artificial intelligence bears some potential benefit. One of the things that I've long found frustrating is that The New York Times, The Washington Post, and other major news outlets, have enormous storehouses of information—not all of it textual. The New York Times must have, in its archives, photos of every square inch of New York City at some point in time over the course of the past 100 years. Artificial intelligence is a great tool for indexing and documenting. We now have tools that allow us to

go deeper into our archives and extract more information from them, which I think is a positive development, and is something I've advocated for a long time publicly. Only with the advent of artificial intelligence does large-scale preservation become something that seems feasible. One can go through the National Archive and extract an enormous amount of information that is currently stored there in an accessible form, which saves someone from having to stumble upon a particular image. I think that is beneficial. I don't think that necessarily solves the storage at scale issue, but it does address the fact that so much information is currently locked away and inaccessible, which is another facet of the challenge.

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Film, TV, Sound

No Film Left Unscanned

by Rick Prelinger

Soon after the cinema was born in the 1890s, a few visionaries realized that film could become one of the most vivid and engaging means of recording history. But when they proposed creating archives to collect and preserve moving images, no one seemed to respond. Most movie studios treated films as expendable objects to be discarded after their theatrical runs, and most collections that actually survived were hidden in specialized spaces: newsreel archives, stock footage libraries, universities, and collectors' basements.

In the 1930s, a handful of courageous archivists in Europe and America inaugurated the modern film archives movement. Asserting that cinema should be seen not only as valuable documentation but as an art in its own right, they collected as best they could. But they encountered great resistance. They fought pushback from copyright holders who saw archives as a violation of their ownership, aesthetes and government bureaucrats who considered movies to be vulgar commercialism and unworthy of preservation, and fire inspectors who treated film as explosive hazmat. Ultimately, film's immense popularity won out. In half a century, the first four film archives expanded to hundreds, and today it's impossible to count how many thousands of archives collect film, video, and digital materials.

But film has always been hard to collect and preserve. Until the 1970s, film was generally made from organic gelatin bonded to

various forms of plastic that inevitably decomposed. Much but not all pre-1951 35mm film was doubly vulnerable, made from cellulose nitrate stock that if heated or exposed to flame could burn rapidly or explode. Film, therefore, was and still is a deeply inconvenient object, requiring very cool and very dry storage in order to survive. Archives fires throughout the twentieth and twenty-first centuries have destroyed large collections, and almost every film is still at risk from decay and decomposition.

For many years the gold standard of film preservation was film-to-film copying coupled with restoration—aiming to preserve films as their makers intended, and trying to preserve the theatrical film experience. This process is difficult and expensive. The turn toward digital technologies came in the 1990s, and now almost all film preservation is digitally-based, even if the product is a long-lasting film print for storage projection.

To think about film preservation is to think about much more than what we call movies. While to most people film and cinema describe the stories we see in theaters or on television, feature films are really a special case. The majority of films are “useful cinema”—films produced to do a job, to sell, train, teach, promote, document, convince. Almost none of these films have been preserved. And the supermajority of films, totalling in the billions, are home movies.

Home movies—8mm, Super 8, 9.5mm 16mm and even 35mm—are ancestors of the videos we shot on camcorders and now capture on cell phones. We might think of each home movie as a pixel in a giant collective documentary spanning a hundred years, endless films picturing family, friends, travels, rituals and celebrations. Home movies picture our own experience of daily life, work and leisure, rather than narratives cooked up by commercial studios. And every home movie is evidence: a gesture of permanence. While there are large collections of home movies, most still live with the families that made them, often in damp basements or hot attics, all vulnerable to deterioration and the vagaries of a changing climate. Of all films, home movies are the

closest to our hearts, the most charismatic, the most fascinating—and they are in the greatest jeopardy.

Fortunately, we now have digital tools and workflows to extend the life of film. While scanning film to produce digital files demands considerable skill, technology, and resources, it is more achievable than ever before. It's possible to digitize most films that have not completely decayed and turn these inconvenient reels into digital files that can be viewed, shared, studied, edited, and woven together with other images and sounds. It's now easy to take a film that may exist in only a single copy and share it around the world via the internet.

Beginning in 2000, Prelinger Archives collaborated with Internet Archive to digitize and offer thousands of useful films online, and since then our films have been seen and downloaded over 200 million times on the Internet Archive and arguably billions of times elsewhere. Our three-year collaboration with Filecoin Foundation for the Decentralized Web, now in progress, is allowing us to scan thousands of films (especially home movies) every year and make them available in a safer, decentralized environment where we hope they will survive for many years. While this is not classic film-to-film preservation creating restored film copies that sit on archival shelves, digital scans of films are likely to exist in many places, avoiding the vulnerability of unique copies in individual repositories. And the quality of digital scanning now exceeds the quality of film-to-film copying.

Perhaps most importantly, digital scans are easy to share. While film preservation should enable universal access to the sum of cinematic creativity, much film is enclosed by copyright or business restrictions. Most films held in archives are still not visible and even fewer are available for reuse. By scanning films that are out of copyright or have no surviving rightsholder, we can open up an immense reservoir of images, sounds and ideas for the makers of the present and the future. Scanning has made film preservation practical, and it's also enabled preservation of "smaller" films like home movies and useful films, which reveal

evidence and truths absent from feature films and television.

No film left unscanned: this is our dream. We have the opportunity to preserve deteriorating films in digital form and make them available for viewing, reuse, and computation as never before. As thoughtful archivists have said for many years, “preservation without access is pointless.” Digital scanning can and should enable both as it helps us to build moving and permanent memories.

About the Author

Rick Prelinger is an archivist, filmmaker, writer and educator. He began collecting “ephemeral films” (films made for specific purposes at specific times, such as advertising, educational and industrial films; more recently called “useful cinema”) in 1983. His collection of 60,000 films was acquired by Library of Congress in 2002, and since that time Prelinger Archives has again grown to include some 40,000 home movies and 7,000 other film items. Beginning in 2000, he partnered with Internet Archive to make a subset of the Prelinger Collection (now over 9,700 items) available online for free viewing, downloading and reuse. Prelinger Archives currently collaborates with Filecoin Foundation for the Decentralized Web to scan historical films and make them available online. His archival feature *Panorama Ephemera* (2004) played in venues around the world, and his feature project *No More Road Trips?* received a Creative Capital grant in 2012. His 30 Lost Landscapes participatory urban history projects have played to many thousands of viewers in San Francisco, Detroit, Oakland, Los Angeles, New York and elsewhere. He is a board member of Internet Archive and frequently writes and speaks on the future of archives. With Megan Prelinger, he co-founded Prelinger Library in 2004, which continues to serve the needs of researchers, artists, activists and readers in downtown San

Francisco. He is currently Emerit Professor of Film & Digital Media at University of California, Santa Cruz.

On Filmstrips

by Mark O'Brien

In 1999, I was working in information technology at a school district in rural upstate New York, and dreaming of writing angst-ridden, sample-laden music that might help people understand what it felt like to be me. Autism was not well-understood when I was a child, and I was simply left to try to pretend to be normal. One day I walked into the school's library and saw an entire wall of shelves being emptied. The district was getting rid of old educational multimedia, most of it filmstrips.

Filmstrips were like slideshows, but on a continuous strip of 35mm film, published equally by independent publishers and juggernauts like Coronet, Jam Handy, Disney, and Hanna-Barbera. By the 1960s, most had soundtracks on record or cassette. A beep or bell sound on the recording told the projectionist to move the filmstrip forward one frame. Today, most people incorrectly call 16mm motion pictures "filmstrips," but they were in fact a separate and distinct thing all of their own.

Instinctively aware that the records and tapes probably contained cheesy, anachronistic material that could also be manipulated in the music I dreamed of making, and also aware that no one else had probably thought to dig through filmstrip soundtracks, I quickly pled my case to the librarian, and she let me take them all home.

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strip of 35mm film, published equally by independent publishers and juggernauts like Coronet, Jam Handy, Disney, and Hanna-Barbera. By the 1960s, most had soundtracks on record or cassette. A beep or bell sound on the recording told the projectionist to move the filmstrip forward one frame.

I gleefully digitized all the records and tapes over the next few months. At the time, I had a good turntable and cassette deck, a professional audio interface, and experience working with audio. I got a couple of filmstrip projectors too, and hosted a few get-togethers with friends where we laughed at the filmstrips' authoritarian, buttoned-down nature, the out-oftime fashions and styles, and the failed attempts to try to seem cool to a high-school-aged audience. We pretended we were on *Mystery Science Theater 3000,* chastising the images on the screen. While everyone else was simply throwing filmstrips away, I had discovered a cultural artifact and viewing experience that aligned perfectly with the subversive zeitgeist of the 90s.

While I began to dream of some way to digitize the film and, perhaps, put it together with the audio in a pre-YouTube world ("Maybe I could learn Macromedia Flash!" I thought. Spoiler alert: I couldn't.) — I had neither the money nor the smarts to get it done. I hung onto the filmstrips for a few years and, feeling like a failure, finally threw them and the soundtracks away. Due to my ignorance and storage space constraints, the only thing left of those soundtracks are MP3s. These two atrocities – saving only MP3s instead of lossless audio, and throwing away the filmstrips, most of which I still haven't found again – haunt me to this day.

Fast forward to 2018. After a long bout of fatigue, I was diagnosed with thyroid cancer. I got the offending gland removed, but the fatigue did not abate. Still in rural upstate New York, I only had access to doctors who would say "your bloodwork looks correct, it's not my problem." I had no choice but to learn to live with the fatigue and, paradoxically, scramble to find something that could

financially sustain me and accommodate my medically required non-traditional schedule.

I forget now, but something made me look into filmstrips again. Surely, between 1999 and 2019 someone had taken up this cause and I wouldn't *need to*, right? In fact, just the opposite was true, and it shocked me: *no one* was saving them. I bought some on eBay and started to experiment.

I also continued to do research — wait, what do you mean 35mm film scanners cost $700,000?! No wonder these things aren't getting saved! Still, I wondered if there was some way I could do it on equipment I could afford. I was hopeful maybe I could scan them somehow, put them together in a video editor and post them to YouTube and people would enjoy them, and maybe they would support me through Patreon.

But I quickly realized this wasn't preservation as much as it was *triage*. Most filmstrips were printed on Eastmancolor, a film stock which is now notorious for self-destruction. First, the cyan and yellow dyes fade, destroying fine detail and leaving the film an intense shade of red. Then, the binder chemical that holds the dye layers in place begins to disintegrate. Once this happens, the dye layers move and smear, destroying the images on the film. The speed at which this happens is dependent on the environmental conditions in which the film was stored. All Eastmancolor film is now red, most of it can no longer be properly color-corrected, a lot of it is in the beginning stages of binder breakdown (called "vinegar syndrome"), and some filmstrips are already physically lost.

Realizing this wasn't traditional preservation, and researching the methods by which a small number of others had saved a small number of filmstrips, I came to an uncomfortable decision: the only way to get this done with limited economic resources was to use a flatbed scanner that accepted 35mm negatives, and carefully cut them to fit in the scanner's film negative adapter. I've heard this

makes “real” preservationists wince, but they had thirty-plus years to digitize the format on the right equipment. If I do not do this work *now*, these filmstrips, containing K-12 and university educational media, business and industry training films, presentations for religious organizations, and sales films used by insurance companies, Amway, and other organizations would be completely unviewable in less than a decade.

With my obsessive-compulsiveness on full alert, I began learning how to make high-quality scans, and developed a process in a video editor to make the filmstrips behave like they did when viewed on a projector, with their characteristic visible movement of the film between frames. In 2019 I was still a long way from being a good preservationist; some of the filmstrips I digitized at the beginning were still discarded after I got a good scan. Today, I try to keep everything just in case.

I left YouTube for a while in 2022, when Scholastic, one of the largest children’s book publishers on earth, tried to get my channel deleted. Turns out they bought the assets of a defunct filmstrip publisher whose work I was trying to save. So not only had no one preserved these things, but a corporation hoarding bankruptcy assets now threatened the very point of preservation in the first place: making history available for viewing. That’s when I moved my primary home to the Internet Archive, who have been unequivocally wonderful to me.

Without filmstrips, our memory of American culture in the 20th century would be severely lacking. They provide historical perspective, cultural context, and reflect the successes and failures of our education system. They are original sources, unaffected by the space constraints and biases of historians and content aggregators. And they’re fun, full of anachronism, awkward photography, non-theistic proselytizing, and so much incredible hand-drawn artwork that runs the gamut from gorgeous to insane to psychedelic to “my three-year-old drew this.” I feel they could be equally attractive to historians and meme makers, squares and cool kids, the religious and nonreligious, fans of

education and fans of comedy.

For this essay, I was asked to explain why preserving filmstrips is important. And that's why I've told you this story; sadly, what I've learned is that preserving filmstrips *isn't* important to practically anyone, including institutions whose job is to preserve film, and even the publishers who produced the filmstrips in the first place. As an independent and self-taught archivist, it's disheartening when I have an interaction with people who admonish me about my credentials (I don't have any), my affiliation with a university (I flunked out of one once, does that count?), or my methods, borne out of necessity and urgency. It's heartbreaking when people on a "lost media" subreddit flame me for saving "lost media no one cares about," or when universities and institutions dismiss what I do while simultaneously beating their chests about the important work *they're* doing. And it's ignorantly classist when someone suggests I just wait until I have $700,000 to scan them "correctly." (I assure you, there will be no Eastmancolor film left on the planet in preservable condition by the time that money comes around.)

While I continue to improve my processes, I am regularly disappointed at how much of what I do isn't actual preservation: it turns out to be mostly raising awareness, setting boundaries, scraping for a dozen YouTube views here and there, and shouting into the void that is social media — none of which I am particularly good at, having what is effectively a social learning disability which challenges my ability to be an effective communicator.

However, pressing questions remain: how do I convince people it's not only important, but *urgent* to save whatever of this format is still out there? How do I get help instead of gatekeeping from other archives and institutions? How do I compensate preservationists who help for their time? How do I compete for attention and financial support on platforms that thrive on viral, rage-bait, and usversus-them content? Can one person, working as hard as he can on something important but not popular, ever do enough, in an age of content creators with a hundred employees and millions of followers, to even be seen?

I hope these words reach some people, but I'm acutely aware of just how many thousands it takes to truly spread the word about something in the modern age. I have more than 2,000 filmstrips left to scan, most from a few generous donors, and I estimate that's about ten years of full-time work. Most are printed on Eastmancolor. It will probably take longer to save them than they have left. I am saving as many as I can, but I fear unless I find a way to more effectively communicate the urgency of it all, I won't be able to save them all. I think it would be shameful if those things got in the way of saving filmstrips, a critical and cool part of our past.

About the Author

Mark O'Brien lives in upstate New York with his wife, who you can follow on X at **@MrsEphemera**, and their cat Charlie, who they got at a yard sale.

On 78s

by George Blood

Thomas Edison produces the first machine that can record and playback sound in 1877. The flat disc is first patented in 1888. The concept is very simple: a sound wave is captured on the record as a physical wave in the disc, most often shellac (the shell of the lac beetle). Most discs spin at approximately 78 rpm, hence the name 78s. Other speeds, such as 80, 90 and 100 rpm are not uncommon. In addition to speed, the equalization and stylus size varies – either to improve the sound or to dodge someone else's patent. In the 1950s they slowly give way to the LP or microgroove record, though in some parts of the world they remain common well into the 1960s.

Why is it important to preserve 78rpm discs?

The cultural record of the 20th century is different from all other periods of human history by the presence of audiovisual recordings. Prior to 1877, there was no way to record the sound of a nursery rhyme being read at bedtime, a musical or theatrical performance, or the world around us. During the ensuing 147

years, formats came and went as technology and preferences changed. Yet for nearly half that time, 78rpm discs were the way we learned about each other and entertained the world. It was a time when the world became a much smaller place. The invention of the automobile and the airplane, the expansion of the railroads, the telephone and radio, to the dawn of the space age, 78s were there. Through 78s, we could hear traditional music from Hawaii long before it was a state. American popular music – jazz, fox trot, big bands, even the Beatles – spread out across the globe, well ahead of Hollywood, and long before television. A thousand people might attend a concert, a theater performance, a speech, or a dramatic reading by Charles Dickens. With the 78, it became possible for those experiences to be shared and repeated, and spread far and wide, not once and done.

The period of 78s doesn't just parallel other historical developments. The sounds on 78s document cultural norms, performance practices, tastes, and the interests of people who, after centuries of drudgery and lives spent in the fields and hard labor, finally had free time.

The period of 78s doesn't just parallel other historical developments. The sounds on 78s document cultural norms, performance practices, tastes, and the interests of people who, after centuries of drudgery and lives spent in the fields and hard labor, finally had free time. My mother liked to remind me that nothing tells you more about a person than what makes them laugh. The comedy routines and lyrics give us a window into a time when groups of people were preyed upon, disparaged, and disrespected in stereotypes and bigotry, which shines a mirror on how we can still do better to our fellow beings. We hear the buoyant sounds of the roaring '20s, a happy, hopeful time, of liberation and greed. Music borne of the heavy hand of oppression and poverty that conveys gospel, blues, and gives us jazz—all quintessentially American. On 78s, we can hear and learn of the other peoples of the world: of ragas and gamalans, performers

who do not traverse great oceans, the cultures of foreign lands we could only read about. We can feel the despondency of the Great Depression in the songs that empathize with the struggles of a nation. Through 78s we can hear firsthand accounts of the attack on Pearl Harbor, the angry, vile speeches of dictators, the songs that inspired a once divided nation to pull together in a common cause against evil, to fight *for peace for our time*, for days *that will live in infamy*. Bursting out of the war to end all wars, big bands, swing, then rock n' roll. It makes one long to hear Bach play the organ, Mozart play the piano, Paganini play the violin, or Orpheus beg for the turn of Euridice, and know, that if we preserved these 78 rpm recordings, future generations will understand our joys and pains, to have a window, through sound, into the arc of history, the slow advance of progress of the human condition.

To remember half of recorded history, it is important to preserve 78 rpm discs.

About the Author

George Blood is an expert in the audio and video preservation industry.

Digital Library of Amateur Radio and Communications

by Kay Savetz

Amateur Radio has been a hobby for well over 100 years. For as long as there has been an understanding of electricity and radio waves, people have been experimenting with these technologies and advancing the state of the art. As a result, the world has moved from wired telegraphy to tube radios to telephones—fast forward a century—to GPS and high-speed digital communication devices that fit in your pocket.

Advances made by amateur radio experimenters have propelled the work of NASA, satellites, television, the internet, and every communications company in existence today. People fiddling with radios have pushed forward technological advances the world around, time and time again.

And yet, the people making these efforts, doing these feats, aren't always the best at documenting and preserving their work for the future. That's where Internet Archive comes in.

I'm the curator of the Digital Library of Amateur Radio and Communications.[215] DLARC is a project of the Internet Archive, and my job is to find and preserve this rich history of radio and communications. DLARC collects resources related to amateur radio, satellite communications, television, shortwave radio, pirate radio, experimental communications, and related communications.

One reason this preservation is necessary is that the people creating history don't always realize at the time that they're creating history.

In the two years since the project launched, DLARC has preserved thousands of magazines and journals, manuals, product catalogs, radio programs, and conference proceedings. These materials were scattered worldwide, often inaccessible and in obsolete formats. We've digitized material that was on paper, cassette tape, reel-to-reel tape, CD-ROMs, DVDs. We've digitized video from 16mm film, VHS, U-Matic, Betacam and even more obscure video formats.

We've built a collection of more than 125,000 items and made them available to the world. Researchers, academics, and hobbyists use the library to learn from the rich history of this 100-year-old hobby. One reason this preservation is necessary is that the people creating history don't always realize at the time that they're creating history. In 1977, the creators of Amateur Radio Newsline[216]—a weekly audio news bulletin—probably didn't realize that their project would still be going on in 2024, 47 years later. And for all of their amazing work, if they had realized they were documenting history, they might have made more effort to save those recordings: the first 20 years of their work are missing. (DLARC has found some recordings from 1996,[217] then most of them since 2012.)

Sometimes creators do recognize the importance of their effort. For more than six years, Len Winkler hosted *Ham Radio & More*,[218] a radio show about amateur radio. Winker recorded every episode on cassette tape and managed to digitize many of the shows himself. However, the process of digitizing hundreds of episodes is tedious and he wasn't able to complete it. With his approval, DLARC stepped in to finish the job. They're all online now, more than 300 episodes including interviews with many notable names in the radio community.

There have been other huge successes: the entire 43-year run of *73 Magazine*[219] is digitized and online thanks to the publisher, Wayne Green, who donated the collection to Internet Archive before his death. Most issues of The W5YI Report,[220] a ham radio newsletter that was published for 25 years, are online as well.

Attempting to preserve material years, or sometimes decades, after the fact makes systematic preservation nearly impossible. For every success story of content saved and archived, there is a heartbreaking story of loss. When amateur radio enthusiasts die, their media collections are often disposed of by survivors who don't have any connection to amateur radio. File cabinets and bookcases full of (sometimes irreplaceable) materials are emptied into recycle bins.

Another challenge to preservation and access is membership organizations that keep their material behind paywalls. They sometimes prevent any of their information from being lent in an online library, which it is their right to do. However while they actively thwart efforts at preservation, it remains unclear whether those groups are adequately preserving their own history.

Some material is preserved intentionally, but a good amount was saved purely by accident. The material we recover and digitize has come from attics and basements, from libraries discarding obsolete material, from long-forgotten FTP sites, from scratched CD-ROMs, and from the estates of people who have passed.

So we float where the radio waves take us, trying to preserve the past as much as possible, while encouraging today's content creators to consider how to make their material accessible to future generations.

About the Author

Kay Savetz is curator of Digital Library of Amateur Radio & Communications. DLARC is funded by a grant from Amateur Radio Digital Communications to create a free digital library for the radio community, researchers, educators, and students. If you have questions about the project or material to contribute, contact kay@archive.org.

Music as Oral Tradition

by Mark F. DeWitt

There was a time when musics in all cultures were oral traditions, passed down by word of mouth as it were, learned by ear. Having made a career in ethnomusicology, the study of humans making music, I tend to regard oral tradition as the foundation of all music and a vital force still in music today, even if most of the music we see in the media is highly reliant on music notation or recording technology to exist. The focus of this essay will be on those oral traditions that have never come to rely on being notated, and whose participation in the commercial recording industry has been at the margins. Cajun French dance music from south Louisiana is one such genre (no space here to describe what it is; you can look it up),[221] and one that I have studied for thirty years, and while my comments may revolve around that, they apply more generally.

Imagine yourself playing music by ear for hours with folks you've never met before (and if you don't play a musical instrument, imagine that you do). Musicians are not looking at sheet music or their phones; they are looking at and listening to each other as they play. Tunes are often not announced—someone will simply start playing and others join in—or if they are announced, you might not recognize the title but know well the tune once you hear it. When you don't know the tune, you may be able to join in after listening for a couple of rounds as it repeats, if it follows familiar patterns. Other times, you may think you know the tune only to find halfway through that everyone has turned right when you turned left. You can hear that there are slightly different versions of the tune getting played simultaneously or one after the other,

which doesn't seem to matter most of the time, so long as the key and timing are compatible and the overall melody is still recognizable. When players stop and chat about what they just played, they'll usually talk about where they learned a tune or from whom, not in terms of who wrote it.

In this scenario, you are immersed in one of several related oral traditions of music where such a session or jam is a social staple in their continuation—Irish, old-time Appalachian, Cajun French music, etc. What may seem at first an undifferentiated volume of melodic fragments swirling through the air proves to be a coherent, resilient tradition of musical ideas. Even if they don't all play it the same way or call it by the same name, musicians can still play a tune together and state confidently that it's one that they know. In the days before recording technology, those rivers of melody continued to flow thanks to those who sat and learned from each other by ear, face to face. While the details may differ, the same could be said of other oral traditions like solo ballad singing or drumming ensembles or any of countless musical genres in cultures across the globe: they continued to exist so long as there were humans to practice them in the physical presence of one another, coming together for reasons that made sense in their time and place. When times changed, people might find new reasons to continue a tradition or it could disappear. If you were lucky, there might be a collector to scratch down some notes or lyrics to remember it by, certainly not enough to resuscitate its practice in recognizable form if you had no idea how a live performance of it sounded.

The invention of phonograph recording changed the game for oral traditions in a few important ways. It gave song collectors a new tool for documenting repertoire that captured much more of the actual sound and nuance of a performance than a musical score can possibly do, giving rise to sound archives of field recordings, going all the way back to the wax cylinder era. These institutions, such as the Archive of Cajun and Creole Folklore at the University of Louisiana at Lafayette, continue to gratefully accept donations of legacy collections of such field recordings from private collectors and their families. The archive digitizes and preserves

these recordings, making them available to visitors to listen to and, in limited instances, freely available online.

The commercial recording industry initially neglected oral traditions for the most part, when looking for music to record, but in the 1920s it famously and accidentally discovered that there were large audiences for hearing such music on records, such as African Americans and rural southern whites. Once companies started recording and selling music made by and for people in these new target markets, the legal and financial frameworks of the industry began to change the music and how people thought about it. Commodification of the music required freezing rivers of song into little ice cubes, i.e., sellable things called works, "complete and discrete, original and fixed, personally owned units" (Lydia Goehr, *The Imaginary Museum of Musical Works* 2nd ed., Oxford University Press, 2007, p. 206), preferably with a known composer who could assign the copyright to the record company in some (often inequitable) pay arrangement. The industry managed to do this despite the fact that in their natural habitat, tunes and songs from these traditions are often partial and interrelated, derivative and variable, with no identifiable owners. Community members who never before encountered their own music this way began to consume it in these commodified units, and musicians now had a new source for learning music, one that (unlike their neighbor) played the song exactly the same way every time. Over the decades, some of these early attempts to capitalize on oral traditions have morphed into major genres of popular music such as country and R&B.

Before we pivot to the contemporary situation of "vanishing culture," we need to clear up a couple of common misconceptions: (1) that traditional music is timeless and ancient, tracing back innumerable generations, and (2) that such traditions are always and forever dying, if they haven't already, in today's world.

In line with the "timeless" trope, the word "traditional" is often used in album songwriting credits to assert that the author is unknown and the "work" in question is in the public domain (not under

copyright). However, oral traditions are always changing and always have been, otherwise we would not have so many of them. They are always assimilating new or borrowed material. Despite eighteenth century historical and ancestral connections between the two regions, Acadian French dance music from maritime Canada sounds very different from Cajun French dance music in Louisiana, due to its different cultural milieu. Styles may change more slowly than in popular music, but they can still change a lot. New tunes and songs will appear from the imaginations of some tradition bearers, and some of that music will be learned and repeated by others in some form. In folk communities of centuries past, the identity of who created the music could easily get lost when nothing was ever written down or recorded, but that doesn't make the music "timeless." It just means that we don't have enough information to reconstruct the timeline.

Many people, including many who live in the region where live Cajun French dance music is found in abundance, assume that "the music is dying" because it is linguistically and stylistically out of step with popular music genres in the American mainstream. This drives some of my Cajun musician friends crazy, partly because they feel like people are ignoring their efforts but probably even more because it is simply not true. There is a critical mass of practitioners across the generational spectrum, some of whom play professionally, despite the impression–even in the music's home region–that it's a niche market. The tradition has survived this long in part through commodification by the record industry, which created artifacts that the local population could collect and listen to and learn from. It also led to related opportunities for the music to be heard on local radio and television outlets, further blurring the distinction between "folk" and "popular" music. Cajun musicians are now writing and recording quite a bit of original material in addition to playing the old standards, new material that springs from tradition but is not at all in the public domain. At the same time, the river of oral tradition flows on wherever musicians gather face-toface at parties, jam sessions, and other gatherings. The music is not dying. I am reminded of what Jeff Goldblum's character says in the film *Jurassic Park*– "life finds a way."

Before we pivot to the contemporary situation of "vanishing culture," we need to clear up a couple of common misconceptions: (1) that traditional music is timeless and ancient, tracing back innumerable generations, and (2) that such traditions are always and forever dying, if they haven't already, in today's world.

All of this brings us to the current moment, in which musicians are still making studio recordings, but without any expectation that they are going to generate much income from them. The local independent record companies that produced Cajun music are largely a thing of the past, although a couple of them hang on. Many musicians simply produce their own recordings or with a very small label that is someone else's side venture. These releases may go out only in digital form, available through streaming services (YouTube, Spotify, etc.) or for purchase as downloads. If musicians produce CDs or vinyl at all, they often produce a limited number and they can be hard to find. Each band has its own idiosyncratic distribution methods, making it harder for a library with limited staff and budget to track down and order such recordings for patrons to listen to. An allowance in copyright law called "right of first sale" allows libraries to loan physical items but not digital files, and maintaining authenticated servers for listening on an intranet that would be considered legal is expensive. Some archives have them, some don't.

The democratization and decentralization of production has also taken place, arguably, with field recordings. Where once we had ethnomusicologists, folklorists, and community scholars going out with the best portable analog recording equipment they could afford on salvage missions to collect tunes and songs from aging musicians before they were completely forgotten, we now have countless phone videos of people playing at jams, at shows, or simply to the camera, posted every day on YouTube and other social media. While scholars who deposit their field recordings are required to sign release forms stipulating exactly how the

recordings may be shared—possibly with additional signatures from whoever else is on the recording if it is to be shared publicly—anyone can post a video to YouTube with no permissions. It can remain public indefinitely if no one requests that it be taken down. How many of these crowd-sourced live recordings are finding their way into a sound archive somewhere for posterity? Donations of privately held recordings from the YouTube era are only just beginning to be donated to archives, and it is hard to predict how widespread such donations will be. Furthermore, what field collecting scholars are doing these days is a drop in the bucket by comparison. Intellectual trends have moved away from “salvage folklore” as a fieldwork priority and have called into question the biases of the enterprise. What we have now on YouTube is a more democratic, unfiltered sampling of living oral traditions; what we don’t have is an archive of it. YouTube is a private entity. It could unilaterally announce a sunset policy for old videos, or lose a lawsuit, or even go out of business, and then some or all of those videos would suddenly disappear. In the current context, this is what we mean by “vanishing culture” – not that “the music is dying.”

So to conclude, I worry. Oral traditions are alive and evolving even now, while the technological, legal, and intellectual frameworks of our society are developing in a direction away from documenting that evolution in a lasting way in repositories like the United States Library of Congress’s American Folklife Center (for field recordings) and its Recorded Sound Research Center (for commercial recordings). At this national level, there is some bias against accepting field recordings that don’t meet certain technical standards (as in some smart phone recordings), and acquisitions of commercial recordings are mostly limited to donations and those that get sent to the U.S. Copyright Office for registration purposes. Not all music qualifying as copyrighted under law is registered with that office, and much that has been registered in recent years was submitted in digital files that have yet to be transferred to the Library of Congress, so it remains to be seen how much the Library will keep up with the times.

Archives dedicated to preserving specific oral traditions also play

an important role as repositories for field recordings or commercial recordings or both, like the Blues Archive at the University of Mississippi, the Archives of Appalachia at East Tennessee State University, the Southern Folklife Collection at UNC-Chapel Hill, the Cajun and Creole Music Collection and folklore archive at UL Lafayette, and the Irish Traditional Music Archive in Dublin. With the exception of the Irish archive, these institutions accumulate materials largely through the donations of entire collections from individuals; to the extent they purchase new commercial releases themselves, many of them will only acquire physical media, not digital downloads. How will these institutions be able to continue pursuing their missions if song collecting as a research pursuit has become passé; if live recordings of people playing only get posted to social media and die with the videographer when their phone gets recycled; if record collecting itself dies away as physical media for commercial recordings become harder and harder to find and collect?

There may still be time to avert a scenario in which seventy-five years from now, there is little record of musical life and especially oral traditions in the twenty-first century, due to how little of it found its way into sound archives. Such a failure would reinforce the idea that oral traditions are things of the past, that all we have left are homogenized popular media and musical institutions for the elite. This idea denies a fundamental facet of human existence: spontaneous, embodied musical expression that is available to all. What could instead happen is that archives adapt their acquisition practices to the times, in terms of what collectors have to donate and what formats the music industry makes available. Those of us who care about preservation can encourage collectors, as the Irish Traditional Music Archive is actively doing, to donate their files to archives in addition to posting them to social media. We have the technology to preserve the musical inspirations of today for the future, so let’s use it. If our laws are making this effort more difficult, maybe we can fix them, too.

About the Author

Ethnomusicologist Mark F. DeWitt is Professor Emeritus of Music at the University of Louisiana at Lafayette, where he was the first holder of the Dr. Tommy Comeaux Endowed Chair in Traditional Music and established an undergraduate curriculum in the performance of oral traditions. He is the author of *Cajun and Zydeco Dance Music in Northern California: Modern Pleasures in a Postmodern World* (University Press of Mississippi, 2008), as well as several journal articles and book chapters.

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215 ▪ https://archive.org/details/dlarc

216 ▪ https://archive.org/details/arnewsline

217 ▪ https://archive.org/details/arnewsline?tab=collection&page=2&sort=date&and%255B%255D=year:%25221996%2522

218 ▪ https://archive.org/details/hamradioandmore

219 ▪ https://archive.org/details/73-magazine

220 ▪ https://archive.org/details/w5yi_report

221 ▪ https://archive.org/details/arnewsline

Digital Culture

Preserving Gaming History

by Jordan Mechner

In 1993, I was trying to learn everything I could about the 1914 Orient Express, to help our team recreate it accurately in *The Last Express* (the game I did after *Prince of Persia*). We were dumbfounded when the French railway company SNCF told us they'd dumped most of their pre-war archives for lack of warehouse space in the 1970s. The train timetables, floor plans and photographs we coveted had gone to landfill.

Like most kids of my generation, I grew up assuming that things like books, video games, music and movies, newspapers and magazines, once published, wouldn't just disappear. If I ever wanted to revisit that 1981 issue of *Softalk* magazine, or read *The Manchester Guardian*'s front page the day World War I broke out, surely some library somewhere would have a copy?

In reality, cultural artifacts are findable only so long as someone takes on the active responsibility to preserve, catalog and share them. Once gone, they're gone forever. Historical oblivion is the default, not the exception.

That summer of 1993, as a last resort, we placed a classified ad in a French railway enthusiasts magazine: "Seeking information about 1914 Orient Express." One issue later, our phone rang.

The voice on the other end proposed that we meet in their club, in

the basement of Paris Gare de l'Est. We passed through a glass door marked "No Access" to discover a cavern of rooms filled with vintage railway posters, books, and the biggest working model train set I've ever seen. Our informants—a pair of retired French railway employees—were waiting.

We explained what we were looking for, and what SNCF had told us. A glint appeared in the two gentlemen's eyes. The elder of the pair leaned forward. "They *think* they destroyed the archives," he said. "We took 'em home. We've got 'em."

If you've played *The Last Express*, you know that they came through for us. Our Smoking Car Productions team in San Francisco was able to spend the next four years creating a faithful interactive 3D recreation of the historic luxury train, thanks to two trainmen in Paris who'd preserved a part of their company's legacy that management didn't consider worth saving. Thirty years later, *The Last Express* has in its turn become a relic. The cutting-edge 1990s technology we used to model and render the train is now antiquated, like 1890s steam engines. Today, retro-computing enthusiasts, academics, online libraries and archives volunteer their resources to curate and preserve games like *The Last Express*, and the documents and artifacts that contain the behind-thescenes stories of how they were made.

Sadly (but unsurprisingly), it's rare for game development studios and media companies who own the underlying materials to prioritize preservation of their legacies any more than the SNCF did in the 1970s. Old server backups are routinely deleted. Internal information about a title's development is often unfindable a decade later even if management asks for it.

As a game developer, I've been in the rare and fortunate position of being able to archive and share source code, assets and development materials from many of my games. One reason is that my publishing contracts let me keep the copyrights (unusual even in the 1980s, almost unheard of today). In 2012, the Strong

National Museum of Play agreed to receive a large pile of cartons that were taking up significant shelf space in my garage. When I turned up a long-lost box of 3.5” floppy disks containing *Prince of Persia*’s 1989 source code, a team of experts descended on my house with a carful of vintage hardware to extract and upload it to github. *Wired* magazine sent a reporter and photographer to cover the event. Few game studio employees can expect such privileged treatment.

We explained what we were looking for, and what [French railway company] SNCF had told us. A glint appeared in the two gentlemen’s eyes. The elder of the pair leaned forward. “They think they destroyed the archives,” he said. “We took ‘em home. We’ve got ‘em.”

A more ordinary course of events is exemplified by the abrupt closure of *Game Informer* magazine in August 2024. Its website with three decades’ worth of industry coverage disappeared overnight from the internet—removed by its parent company, GameStop, with no advance warning to the magazine’s subscribers or even to its staff. In this case, a robust network of game fans and journalists (and the Wayback Machine) quickly sprang into action to archive past issues. But similar erasures happen constantly around the world, largely unnoticed by the public. Game studios, local newspapers, and other companies disappear every week, taking their history with them.

The Internet Archive's recent removal of 500,000 books from its online library, after being sued by a group of big publishers who called scanning and lending their books piracy, is now the subject of an ongoing court case. The decision (which may come down to the U.S. Supreme Court) will have a major rippling impact on future preservation efforts and online archiving, including within the video game industry.

As a lifelong author, game developer and graphic novelist who makes my living primarily from royalties, I understand publishers' desire to control and profit from content they own. But all of the games and books I've created were made possible by what came before—including other games, books, movies, and history I could access when I needed it, thanks to archivists and librarians. Their work is unsung, and often unpaid. I'd like to see it unpunished. Having benefited so much from their efforts, it's painful to me as a creator to see them under attack.

I believe in fair use, and I fear for a society in which our ability to document and preserve our history (including books and games we've purchased) is effectively hamstrung and blocked by large companies seeking to expand their control of digital platforms. For these reasons, I'm firmly on the archivists' side.

I can't help thinking that if the SNCF employees who took home those file boxes of train floor plans and route maps in the 1970s were to do the equivalent today—scan and upload them to a vintage railway enthusiasts' website, say—they might well find themselves hit with a takedown notice and legal threats. Theft of intellectual property, violation of non-disclosure agreements, conspiracy to commit piracy. In today's climate, I wouldn't blame them for hesitating, or for letting their employer consign that history to oblivion.

The little corner of our world to which I've dedicated my working life—making video games, books and graphic novels—is just one small niche. But it depends on, and is connected to, all the rest. I hope that the French railway enthusiasts' club still exists. I hope GameStop allows the readers and former staff who treasured their magazine to preserve its legacy without interference. And I hope the Internet Archive wins their case.

About the Author

Jordan Mechner is an American video game designer, graphic novelist, and screenwriter. He created *Prince of Persia*, one of the world's most beloved and enduring video game franchises, and became the first game creator to successfully adapt his own work as a feature film screenwriter with Disney's *Prince of Persia* (2010). With game credits including *Karateka*, *The Last Express*, and *Prince of Persia: The Sands of Time*, he is considered a pioneer of cinematic storytelling in the video game industry. Jordan made his debut as a graphic novel writer/ artist with the autobiographical *Replay: Memoir of an Uprooted Family* (recipient of the 2023 Chateau de Cheverny prize). His graphic novels as writer include the *New York Times* best-selling *Templar* (with LeUyen Pham and Alex Puvilland), *Monte Cristo* (with Mario Alberti), and *Liberty* (with Etienne Le Roux).

Archiving Community Care Work Online

by Amanda Gray Rendón

When asked to consider women's care labor, people likely think about feminized gender roles within "the domestic sphere" where labor has historically been invisible and undervalued. For women of color, the lines between public and private have often been

blurred, as evidenced by the family photo of my great-grandmother picking beets in a field while caring for my two-year-old grandmother. Sixty years later the roles would reverse and my grandmother would serve as the primary caregiver for her mother with Alzheimer's dementia. I could not begin to quantify in dollars the thirteen years of 24/7 care she provided our family.

In U.S. culture, women have historically been thought of as "natural" caregivers or predisposed to caring for others, so little to no concern has been given to assigning monetary value to the labor that women are expected to perform.

This begs the question: how can we adequately archive a history that is designed to be hidden and undervalued precisely because of how invaluable it is to our social, cultural, and economic fabric?

Women's care work—both paid and unpaid—serves as the foundation on which the world's post-industrial economies have functioned. Working mothers and caregivers often participate in what scholars refer to as the "double-day," or the "double shift." This is when (predominantly) women have an income-earning day job followed by unpaid caregiving labor they provide their families when they get home in the evening after "work." Some have argued women's care work has expanded into a triple shift[222] whereby women have taken on more caregiving roles within their communities, adding significantly to gendered burdens of care.

The invisible, and at times isolating, nature of care work contributes to the precarity of archiving women's care labor history. To preserve this aspect of our cultural history, it's vital to engage with those performing care work, as well as to understand the different ways that community care work is performed. Documenting caregiver culture on social media allows us to identify the contributions that caregivers and care communities make, along with the barriers they face.

No one has helped me to understand this more than Cynthia

“Cindy Ann” Espinoza. Cindy Ann and I met when we both attended Metropolitan Community Church in San Antonio. She graciously offered to participate in my research when I spoke at a community education session on Alzheimer’s disease that the church sponsored in collaboration with the local chapter of the Alzheimer’s Association. We became Facebook friends shortly thereafter and I observed firsthand the virtual care work in which Cindy Ann participated, as well as the archive she had created of the “real world” care she provided her mother who passed from complications of Alzheimer’s dementia several years earlier.

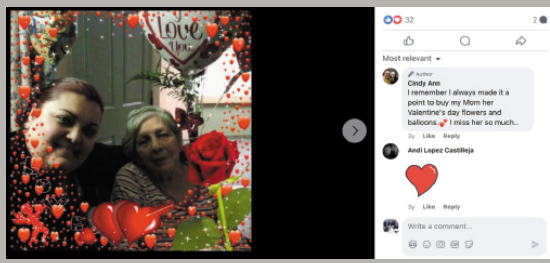
On January 17, 2017, about a week before PBS aired the documentary Alzheimer’s: Every Minute Counts,[223] Cindy Ann posted a video excerpt from the film to her wall on Facebook. The three-minute video,[224] with 4.4 million views and over 5,000 comments, was originally posted to Facebook by Next Avenue,[225] a PBS digital publication dedicated to issues facing individuals over 50 years old in the United States. The documentary follows Daisy Duarte, a Latina in Minneapolis, as she cares for her mother, Sonja, who is living with early-onset

Alzheimer’s dementia.

Next Avenue’s original post reads, “Millions of Americans will be able to relate to this story.” Cindy Ann identified herself as one of those millions of Americans almost five years after her mother’s passing from complications of Alzheimer’s dementia. Her post included the message, “I can relate to this woman in this story. Its the hardest thing to see ur parent dealing with Alzheimer”s ..but i did it for 9 yrs caring for my Mom i have no regrets. I would do it all again even if she didn’t remember who i was. I love & miss you dearly Mommy..” Cindy Ann watched Daisy wash her mother’s clothes, brush her teeth, apply her makeup, do her hair, show her how to hold a spoon, sit her in a recliner to watch television—all while exclusively speaking Spanish. The invisible care work Cindy Ann provided her mother nearly a decade before was publicly visible for the world to see.

I also related to the family portrayed in the film. As I viewed the video, I was reminded of my own experience helping my grandmother care for my great-grandmother when the three of us lived together in San Antonio. This personal connection prompted me to comment with a note of: “thanks for sharing.” I appreciated the connection Cindy Ann created in that moment.

Several of her other Facebook friends left comments in response to her post. There was one from an employee at a local adult daycare facility: “Yup and ur mama was a beautiful blessing for us at seniors 2000! I loved her so much <3;” and another from a current caregiver, “Aww I’m doing it right now. My heart aches every time I leave my mom. I pray for her mind to heal. It’s one of the ugliest diseases ever encountered! I pray they find a cure very soon.” Others were comments of support, such as: “Super hard, girl.” and “Amen.”



The commenters were all women who either acknowledged Cindy Ann's experience as their own or validated it with words of empathy and support. That winter morning, Cindy Ann's public Facebook page was a place where women came together to share a commonality of experience in an online space. The care community helped to make visible their friend's caregiving labor, as well as their own—in effect becoming a part of care labor history.

Though the internet seems to be "forever", the ephemeral nature of certain online spaces—such as social media pages and posts that can be deleted or websites that are no longer supported—necessitates an archival space such as the Internet Archive, which on May 9, 2017 captured the full-length documentary Cindy Ann posted about. Nowhere else on the internet can I access this film without a subscription, rental, or purchase. As a researcher, the Wayback Machine is an invaluable archival research tool that I rely on to provide accurate records of historical online spaces I can no longer access. However, we must find a way to better preserve social media pages such as Facebook, Instagram, X, and others where caregivers post and provide community care. The sheer volume of pages and posts may have made this a challenging task previously, but with new AI language learning models, we can begin to conceive of ways to more pointedly target and capture the rich history of online care communities and women's virtual care work.

To preserve a more complete and inclusive history of women's caregiving labor, digital archivists must seek out the spaces where women are performing the work. The Internet Archive serves as a record that women's care communities exist, have always existed, and will continue to exist. Documenting the challenges women caregivers face, the support they need, and their shared spaces of communal experience helps to create a more complete historical record of their cultural impact for future generations.

About the Author

Amanda Gray Rendón is a community-based researcher, writer, oral historian, and documentary filmmaker. She is currently a Mellon Postdoctoral Fellow in Global Narrative Medicine and Digital Health Humanities at Wheaton College. She received her PhD in American Studies with concentrations in Mexican American & Latina/o Studies and Women's & Gender Studies from The University of Texas at Austin. Prior to her work in academia, Gray Rendón was a project manager in implementation services for a medical software company followed by several years in case management for a mediation and arbitration firm in Washington, D.C. She is the recipient of fellowships and appointments at several institutions, including the Inter-University Program for Latino Research, Earlham College, the Smithsonian National Museum of American History, and Saint Louis University. Her scholarship centers the lived experiences of Latina professional and family caregivers. Her commitment to social justice and accessible community-based knowledge production is a core principle of her scholarship and pedagogy.

Why Preserve Flash?

by Jason Scott

At the Internet Archive we have a technical marvel: emulators running in the browser, allowing computer programs—after a fashion and with some limits—to play with a single click. Go here, and you're battling aliens. Go there, and you're experiencing what a spreadsheet program was like in 1981. It's fast, fun, and free.

We also encourage patrons to upload the software that affected their early lives, and to then encourage others to play these programs with a single click. And so, they do—many, many people working through an admittedly odd set of instructions to make these programs live again.

But of the dozens of machines and environments our system supports, one very specific one dwarfs the others in terms of user contributions: thousands and thousands of additions compared to the relative handful of others. And what is that environment?

Flash.

Created in the 1990s through acquisition and focusing its playability within then-nascent browsers, Flash (once Macromedia Flash, later Adobe Flash) was a plug-in and creation environment designed to bring interactivity to websites and provide a quick on-ramp to making some basic applications across various machines. Within a few years, it was something else entirely.

Originally, it was something as simple as a website where rolling your mouse over a button made it light up or play a sound. Soon it became little animations playing in a splash screen. Some machines had their resources taxed by this alternate website technology—but soon many major sites couldn't live without it.

Flash flew across the mid-2000s internet sky in a blaze of glory and unbridled creativity. It was the backbone of menus and programs and even critical applications for working with sites. But by 2009, bugs and compatibility issues, the introduction of HTML5 with many of the same features, and a declaration that Flash would no longer be welcome on Apple's iOS devices, sent Flash into a spiral that it never recovered from.

But thanks to the Archive's emulation, Flash lives again, at least as self-contained creations you can play in your browser.

What emerges, as thousand of these Flash animations and games arrive, is what part it played in the lives of people now in their twenties and thirties and beyond. "Almost like being given a moment to breathe, or to walk into a museum space and see distant memories hung up on walls as classic art," our patrons wrote in.

For a rather sizable amount of people using computers from the late 1990s to mid 2000s, before Facebook and Youtube pulled away the need for distractions of a simpler sort, Flash was many people's game consoles. There were countless people, at work and at home, using Flash sites to play to pass the day and night. Games, animation, and toys to flip through and enjoy. And what there had been to enjoy!

A reasonable tinkerer of Flash's construction and programming environment could create something functional or straightforward in a day or two of playing around. Someone more driven could, across a week of work and lifting ideas and tutorials from elsewhere, emerge from their screens with an arcade-quality

game or a parody movie that got an immediate, heartfelt reaction from a grateful audience. Even when the audience wasn't quite so grateful, it was easy enough to whip up another experimental work and throw it into the public square to see how it landed.

Without some extensive surveying and research (maybe a future Doctorate of Flash History is out there) we may never know exactly what combinations of ease, nostalgia, and variety have left so many people with such a fondness for Flash. But one thing is clear: its preservation is vital.

Recent events have strengthened the need to keep Flash preserved—for example, shutdowns of the Cartoon Network's website wiped out hundreds of Flash games and animations that only existed on the site, and will never show up on a DVD or streaming service.

It is everywhere, and nowhere—an easy enough thing to explain, but an impossible thing to transfer over as to the depth and variety of what the garden of creation was. Flash, while under the purview of a single company, became, in contrast to the hundreds of other languages and programs for video and sound, the home for everyone. And now it has a home with the Internet Archive.

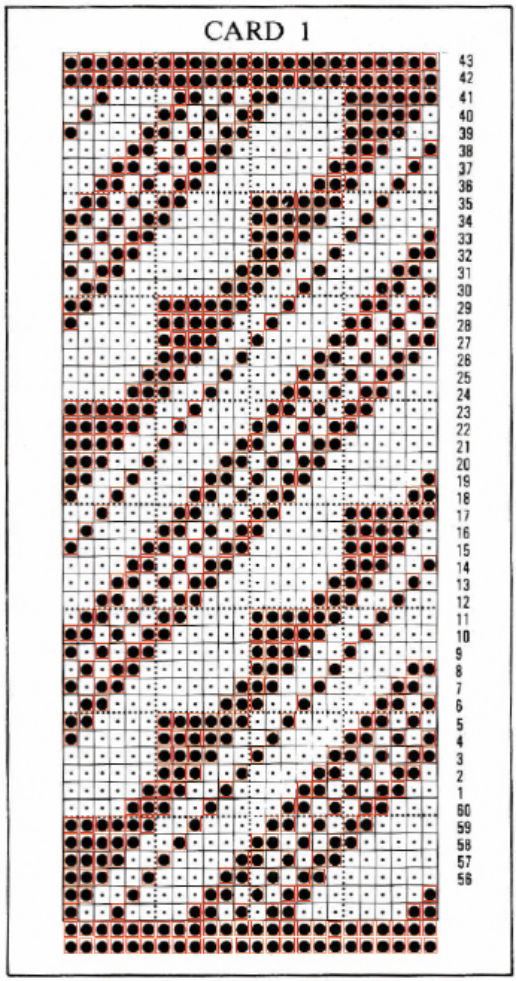
About the Author

Jason Scott is the Free-Range Archivist and Software Curator of

the Internet Archive. His favorite arcade game is Crazy Climber.

Punch Card Knitting

by Nichole Misako Nomura



Punch cards are a fascinating binary data storage format that aren't just history—they're still used by knitting machines today! Thanks to the Internet Archive and other collections, we still have access to historic punch cards, but there are some technical challenges to using them in the format they're stored in. Meet a few folx working on those challenges.

Punch card computation—the good old days, or the bad old days, depending on who you talk to—lives firmly in the land of “the old days” for most—a piece of history, with pedagogical and nostalgic benefit—but it’s alive and well in the textile world.

Histories of computing frequently point to the Jacquard loom as the example of the “first” code, used to create fabric in a variety of patterns—like this 1839 commemorative portrait[226] of the Jacquard loom’s inventor, J.M. Jacquard. These looms use punch cards to lift warp threads above or below the weft, allowing for the

mechanized creation of non-repeating patterns across the loom.

While the Jacquard loom gets all the attention for being the first code, the punch card knitting machine transitioned from being a Jacquard attachment on lace and knitting machines in industrial textile production to the kind of local, DIY code that a lot of people in textiles interacted with—many of whom were women. By the 1970s, they were used by people knitting for themselves and their families, for take-home piece-work, and in textile factory settings. The punch card machine was eventually replaced in commercial and, if you can afford it, home contexts by machines that could control individual needles, instead of depending on a punch card's repeat—but the machines are still in use in a number of hobbyist workshops (like my own!) and are even still in production (albeit much-reduced).

The knitting machines I own share their punch card dimensions (24 stitches wide) with one of the first punch cards (the Hollerith card, used for the 1890 census, was a 24-column punch card). They're an important piece of computing history—and crucially, one of the few that isn't *only* history because a broad community of people, on- and off-line, are still sharing knowledge on how to hack, restore, and use them.

All punch cards are fundamentally digital, even if we don't generally think of "digital" as a property physical objects can have. It is only recently that our associations of computing with "the cloud" and other ephemeral metaphors have superseded the fundamentally physical processes that support computation. Working with knitting machine punch cards reminds me that the cloud is a metaphor, and lets me own and manipulate my code in a way I find both challenging and creatively liberating.

The coolest thing about knitting punch cards is that they really are just sequences of "yes" and "no"—and that information is actionable in a wide variety of machines, all of which perform different functions based on that information. Some machines can

knit two different colors at once—one color is “yes,” and the other is “no.” Others can skip the stitches marked as “no.” Some machines can make tuck or slip stitches, and others still do something called “weaving,” a variation on the aforementioned twocolor knitting. The information encoded by these punch cards, regardless of the actual dimensions of the cards, is interoperable across most machines—and when it is not, it is because the number of holes in the punch card doesn’t permit the same numeric repeat (30 and 24 are divisible by a similar, but not identical, set of numbers).

There are a lot of punch card knitting patterns stored on the internet, found in multi-purpose archives like the Internet Archive and in countless community-hosted Google Drives. Unlike a pattern written for hand-knitting, these punch cards are not, strictly-speaking, usable in the format they are stored in. While I could knit a sweater from a set of directions that look like *knit 1, purl 40* from an image, working with images of punch card knitting patterns requires a different workflow—one that, counterintuitively, is challenging because of the digital nature of the punch card itself.

Digitizing the already-digital

Knitting machine punchcards are relatively easy to digitize in a way that preserves the information, but relatively difficult to digitize in a way that makes the transition back from stored-on-the-computer to stored-in-physical-material feasible. It is entirely possible to recreate a punch card using an image—by hand, laboriously, with a physical hole punch.[227] Usually I work row-by-row, with a ruler across the image, to make sure I’m putting holes in the right spots and chanting things like “3 yes, 1 no, 3 yes, 4 no”

in repeating patterns. It is error-prone, but consistent with how generations pre-internet worked with these patterns—translating an image in a book or magazine into binary data of “punch this, not that.”

However, those with more patience for debugging than patience for tedious card-punching have been experimenting with a variety of methods that allow for computer-controlled punching—or, more often, cutting that imitates punching. The Cricut is the standout piece of hardware here, although any machine that can precision cut paper using code will do. These machines, called CNC machines (CNC stands for “computer numerical control”), can have laser or blade attachments, and they work the same way as the massive plasma cutters used for cutting steel. A layer of software, which can be open-source or proprietary, translates an image stored as a SVG (scalable vector graphic) into strings of numbers that control the cutting head.

SVGs aren’t that hard to generate off of images; the challenge here is generating an SVG off an image that actually fits in a punch card knitting machine. There is exactly one spot a hole can go that will work with the dimensions of a knitting machine, and unfortunately, low-quality scans (even pretty-good quality scans) are often too noisy to make it possible to blow up the image and then cut out all the dark spots. I tried, and was rewarded with a punch card that jammed, ripped, and complained loudly for several rows before I gave up. With higher-quality scans, this one-to-one kind of reproduction might work—but only for the machine the punch card was originally designed for. So there’s an incentive to extract the information in those punch cards in a way that is not tied to the specific dimensions of one knitting machine or another. Knitting magazines frequently turned to standardized grid formats for this, preserving the information (“yes, no, yes, yes, no”) but not the specific dimensions of any given punch card.

All punch cards are fundamentally digital, even if we don’t generally think of “digital” as a property

physical objects can have.

I work with punch cards in my home workshop for fun, but I'm also fortunate enough to work with them at Stanford's Textile Makerspace,[228] where Quinn Dombrowski has been teaching data visualization using textiles[229] on an assortment of knitting machines, looms, and sewing machines. Quinn's colleague Simon Wiles, a Digital Scholarship Research Developer at Stanford's Center for Interdisciplinary Digital Research, has worked on a computer-vision approach for converting images of punch cards into data that could be used to generate new physical punch cards. He previously worked on an incredible digitization effort on behalf of the Stanford Libraries to digitize their player piano rolls,[230] which posed related technical challenges, so knitting-machine punch cards seemed like a challenge right up his alley.

When I asked Simon to describe his ideal digitization and preservation workflow for knitting machine punch cards, he said something that surprised me—that the encoded information preserved in magazines and books might be a better starting place than the punch cards themselves, depending on the goals of the project. It's really hard to scan a punch card well. He pointed out that all sorts of things happen to physical punch cards that make them harder to digitize—they get bent or torn (and in the case of the player piano rolls he's worked on, people repair and modify them in a variety of ways)—all of which are interesting material information about use, but which pose challenges for computer vision. The question of what to do with a hole that has been taped over is not only a creative decision, but also a technical one: will the scan be able to capture that? Do we introduce a new character to represent the tape in the encoding? Not that magazines are foolproof, he stresses—there are plenty of challenges in digitizing shiny paper, especially if one is trying to do it quickly or automatically.

Regardless of source material, Simon stresses the importance of high-quality scans: "From the point of view of posterity: the scan quality is really important—preserve it the best you can: things

that are difficult to parse now will only get easier to parse in the future.”

Punch Card Encoding

Storing the parse—and circulating that information without having to repeat the process of either manual or computer-vision-assisted encoding—relies, at the moment, on community-supported infrastructure.

The format accepted by Brenda A. Bell’s generator,[231] which generates SVGs for a given punch card style based on a user’s plain text file, has become one of the de facto encodings for this information as a .txt file encoded in ASCII—a way to archive and share punch cards that skips over the limitations of image-based archiving, even as it requires more upfront investment in labor. See image at right for an example of what this looks like.

```
--x-x-x-
-xxx-xxx
x-x---x-
xx-----x
x-x---x-
-xxx-xxx
--x-x-x-
---xxx--
```

Text files are a lot smaller than images, and can be stored easily on both personal hard drives and cloud storage. There are many community-run Google Drives that act as repositories for these punch cards. As far as storing and circulating go, the ASCII format accepted by Bell's generator offers a lot in terms of flexibility—allowing us to quickly remix, edit, and modify punch card patterns using lightweight, open-source software, even if the current format decontextualizes the information from its original conditions of use. Simon pointed out that a standardized metadata structure could do a lot there—maybe a standardized plain-text header—and I imagine what I could do with a corpus of punch card encoding linked to metadata about its provenance and digitization and to source images stored somewhere like the Internet Archive. What would we learn about knitting and textile history? What creative remixes would be possible?

Punch cards preserve the past and future

Knitting punch cards are an important part of any feminist computing history, and surprisingly resilient. They're interoperable across machines with the same repeat, can be stored as physical (but still fundamentally digital) copies without worrying about hard drives going bad or requiring ongoing power consumption, and are also, in the age of seemingly-endless proprietary software and terms and conditions, refreshingly punk, in a minimal computing,[232] open-source sort of way. How many people actually read the source code of the open-source software they use? Punch cards are the source, in something so fundamentally binary that fluency is not hard to come by. (Fluency in binary for almost all other tasks is nearly impossible.) I can repeat a row as many times as I wish. I can change whether my machine ignores the 1s, knits the 1s, purls the 1s, etc. I can perform subsequent operations on the punch card's outputs with manual manipulation. And I own it. I own my knitting machine, can take it apart and repair it without violating some terms of service, and can hack and modify it and my punch cards to my heart's content.

In a dream world, we'd have naming conventions or databases that let us link the .txt files to their corresponding stored images, in a system that balances the practicalities of storage and future use with the incredibly rich history available to us in the images. Punch card archiving supports an active, developing space where folx continue to develop computational and coding expertise in a variety of formats and ways—from working with mathematical modeling software to generate new punch cards to working out new designs with a hole punch and the memory cartridges at their machine. Our digitization and archiving practices can help us better understand the history of computing at the same time as they support an ongoing community working in creative computation. The Internet Archive and other community archives

—which Simon says “are our best hope against enclosure”—don’t only preserve history, they enable communities to continue using and developing our technological resources.

About the Author

Nichole Misako Nomura has a PhD from Stanford in English and an MA in Education, and studies digital humanities pedagogy. She’s currently an Associate Director at the Stanford Literary Lab, a digital-humanities research collective, and a lecturer in the Stanford Department of English.

Recovering Lost Software

by Josh Renaud

Whether it's Pac-Man or Pikachu, Link or Lara Croft, Master Chief or Mario, we love playing video games.

But what about preserving them?

Data shows we spend big money[233] on video games: more than $200 billion globally. By some reports, gaming is now bigger[234] than the global film industry and the North American sports industry combined.

Despite all this growth, data also shows the industry has done a poor job stewarding its heritage and history. In fact, a recent study shows classic games are in critical danger of being lost.

Only 13 percent of all classic games released between 1960 and 2009 are currently commercially available, according to the "Survey of the Video Game Reissue Market in the United States," published last summer[235] by Phil Salvador for the Video Game History Foundation and the Software Preservation Network.

Worse, this percentage drops below three percent for games released before 1985, "the foundational era of video games," the study found.

The study considered a random sample of 1,500 games from the MobyGames database, as well as the entire catalog of the Nintendo Game Boy—4,000 games altogether.

The commercial unavailability of so many classic games leaves few viable options for playing them today. People can attempt to track down and buy increasingly-rare vintage games and hardware, visit a few specialty institutions, or resort to piracy, the study[236] noted. Terrible options all around.

But what about cases where a game was never archived in the first place?

That was a situation I ran into when I wanted to find copies of “Mom and Me” and “Murray and Me,” two graphical chatbots created in 1985 by Yaakov Kirschen, the Israeli artist best known for the “Dry Bones” cartoon in the Jerusalem Post.

These “artificial personalities” were among the earliest entertainment software released for the Atari ST computer, and they got splashy write-ups in newspapers including the *London Times*, the *San Francisco Chronicle*, and the *Los Angeles Times*. Even three-time Pulitzer prize winner Thomas Friedman wrote a profile in the *New York Times*.

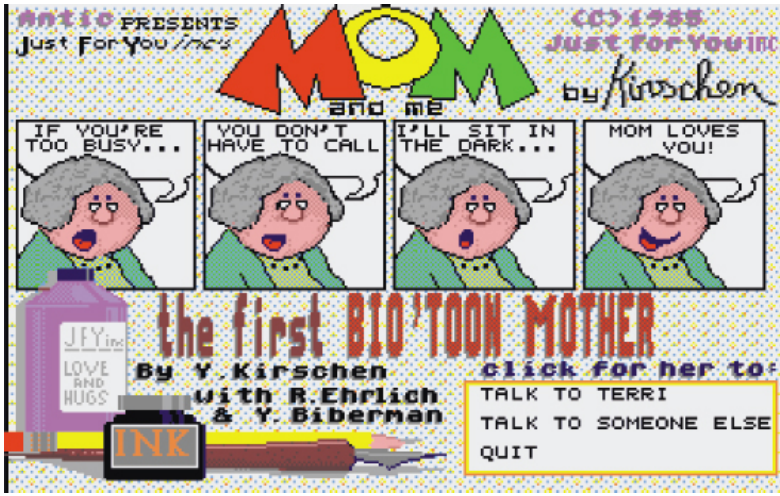
Drybones' comments on life are to appear in *The Jerusalem Post* on Mondays, Wednesdays and Fridays.

Despite that publicity, and the advantage of getting in on the ground floor of a brand new computer platform, probably fewer than 2,000 copies were sold. Apparently I was one of the very few who had copies, which I received from my uncle Jim when he handed down his old Atari 520ST computer to my family in the early 1990s. I remember being amused as my brothers and I conversed with “Mom” and “Murray” back then.

When nostalgia hit me decades later, I began searching online for disk images of these old programs. But there weren’t any, except for one obscure German translation of “Murray” in monochrome.

I wrote about this predicament[237] in 2014 on my blog, Break Into Chat, which put me in touch with Kevin Ng, who also had some copies. We each made digital images of our old floppy disks, preserving several original versions of “Mom” and “Murray.” But the monochrome version of “Mom” remains lost.

In the years since then, I have continued researching Kirschen’s other lost software, ranging from multiple Jewish and secular educational games for the Apple II computer, to his “artificial creativity” autonomous music composing technology for the Commodore Amiga and the IBM PC. Like “Mom” and “Murray,” none of it sold well, nor was it preserved despite good publicity.



With the help of three fellow retrocomputing enthusiasts in St. Louis, I recovered many of Kirschen's games and programs from floppy disks Kirschen sent to me. Keith Hacke imaged most of the Apple II and the IBM PC disks, while I imaged the Commodore Amiga disks using hardware loaned by Dan Hevey and Scott Duensing.

I published[238] the disk images with summarized histories on Break Into Chat. Then I uploaded[239] them to the Internet Archive, making them playable in web browsers—but more importantly, preserving them for posterity.

I'm proud to have played a part in bringing this dead software back to life, and restoring a part of Kirschen's legacy. I think this work is worth rediscovering today.

Take "Nosh Kosh"[240] from 1983, for example. Essentially a Jewish take on Pac-Man, this is an action game designed to teach children about kashrut, Jewish dietary law. It was one of three games modeled on existing arcade classics made by Kirschen together with Gesher Educational Affiliates in Israel.

In “Nosh Kosh,” the player moves a kippah-wearing character named Chunky around the screen, trying to eat all the food items while avoiding three non-kosher bad guys: Peter Pig, Larry Lobster, and Freddy Frogslegs. There are three kinds of food—ice cream, meat, and carrots—but the player must wait a bit between eating the meat and ice cream, otherwise Chunky will yell “Oy!” and lose a life.

Or consider Kirschen and Gesher’s more ambitious “The Georgia Variations,”[241] a choice-based narrative game about Jewish history, identity, and migration, introduced the same year as “Nosh Kosh.”

In this game, the player takes on the role of Boris Goldberg, a Jewish boy in Eastern Europe in the nineteenth century who must make decisions about school, work, marriage, and even what to do in the face of persecution and pogroms. The player’s decisions affect the storyline, but in the end, all the threads eventually lead to the same ending: Goldberg immigrates to Atlanta, Georgia.

Niche educational games like these were far less popular than mainstream action and adventure games. The hobbyists and amateur archivists who preserved software of that time often skipped this genre entirely. And today, these sorts of games may

not hold much interest for the general public.

So why bother preserving them?

The prolific Apple II preservationist “4am” gave a great answer in Paleotronic magazine:[242]

“This was how we taught math and science and grammar and history to an entire generation of children. That seems like something worth saving.”

That’s certainly true of Kirschen’s work. In the Apple II games he made with Gesher, we see Jewish educators’ early steps learning to use a new medium to reach kids. And Kirschen’s later work with “artificial personalities” and “artificial creativity” foreshadows the promise and pitfalls of today’s AI craze.

I’m glad to have played a part in bringing this software back to life so others can have the opportunity to play it and study it.

About the Author

Josh Renaud is a journalist at the St. Louis Post-Dispatch. He publishes computer history research on his website, Break Into Chat. He is interested in recovering lost or obscure software, and telling the stories of the people who made and used it. This summer he received a Geffen and Lewyn Family Southern Jewish Research Fellowship from Emory University to study papers related to Gesher's educational computer games.

What Early Internet Era GIFs Show Us About Preserving Digital Culture

by JD Shadel

Once upon a time, everything on the Internet existed in one single location: on a Wal-Mart flat-pack desk in my childhood home. OK, that's not *technically* accurate, but it felt very true to me then. When I sat on that height-adjustable ergonomic desk chair, the whole Internet seemed to rest on that particle-board desk, which sagged under the weight of the *chonky* desktop computer it held.

I first glimpsed the World Wide Web through an off-white monitor four times the size of my young skull. The first sound the Internet made was, of course, a screech—*i.e.*, the symphonic shriek of dial-up. A kid in the hills of Appalachia, I turned up the volume knob on the clunky speakers to hear 19 or so screaming seconds of *skooo skeee skooo skeee dooo skahhh skaaaaaaahhhh skahhhhhh* on full blast. It made my mom cringe, which made me love it more. This was the fanfare for us early cybersurfers, a sound announcing that we were all logging on. And when this sound concluded, I saw this new world. Internet Explorer would load the web's jittery rhythms: a seemingly endless sea of constantly looping GIFs that felt as cheeky and comical as they felt fresh.

For those who came of age with the early days of the World Wide Web as I did, that dial up shriek sounded like the future. And that future looked like the web's emergent image filetype: the new

Graphics Interchange Format combined multiple frames into a single file, displaying basic animations on repeat. It quickly came to define the dot-com aesthetic.

The limited bandwidth and capabilities of the day's desktop computers helped GIFs transcend technical barriers to become an icon of the time. Soon, everything seemingly imaginable had been GIFed: dancing babies,[243] dancing skeletons,[244] and, of course, loads of cat GIFs.[245] There were timely GIFs for everything from "The Simpsons" cartoons and e-pet like Tamagotchi keychains and a Furby blowing bubble gum (like those I have sampled on my writing website,[246] which highlights a few dozen from my personal collection saved through the years).

As culture increasingly flourished on the Internet throughout the 1990s and early 2000s, culture increasingly looked like GIFs. GIFs became the first widely adopted computer art, the vernacular for the first-wave of Internet memes, and the way contemporary Internet users then expressed what we today might call our "personal brand." If you click around a few personal pages from GeoCities, the first major platform that let individuals host their own websites (archived on the Internet Archive's Wayback Machine),[247] you'll see how early Internet users would select a series of decorative GIFs like clip-art to express their identities and interests in these emerging virtual spaces. GIFs served functional purposes, too—they were used as spacers to define different sections of a page, for instance. They were also an animated way to invite someone to take some desired action, such as send you an email or sign your guestbook. On forums, GIFs even became avatars and the visual representation of our "netizen" personas at a time when not everyone was comfortable using real names or photos online.

But in my mind, nothing captures the creative spirit of the early-Internet era quite like the rich "under construction" subgenre, which I've cataloged in my own personal GIF collection I began archiving during the pandemic using GifCities.[248]

Due to easier-to-use hosting services and the relative ease of learning HTML essentials, the landscape of personal websites in the web 1.0 felt handmade and do-it-yourself. If you were working on a new website but it wasn't quite done, you'd be prone to make the incomplete version live and highlight the pages that weren't finished with a litany of GIFs themed around building physical infrastructure—think animated flaggers holding signs, jittery construction workers operating jackhammers, and dump trucks and the like.

The physical construction metaphor speaks to the collective sense then that the World Wide Web was a place we were engaged in making together. Dropping a few construction GIFs on your page was a way to indicate "hey, this is a work in progress"—and it was a continual reminder that this new medium was something we could all play some small role in shaping. I don't want to indulge in undue nostalgia. The early web was a capitalist place built on the backs of government-funded networking systems that had become accessible to folks outside academic circles with the World Wide Web. Many of our current challenges have roots in decisions made during the early Internet days. But there is a lesson inherent in that era that a lot of us have forgotten, as the Internet has started to feel more like a generic shopping mall as opposed to the digital public square it's always been mythologized as.

Back then, there was a more palpable sense that we were all netizens—even the "noobs," the irritating new kids like me logging on every evening from their parents' computers. We were *citizens* of something collective. I might've been a nobody queer kid living on farmland in coal country. But when I got online, I was participating in building some corner of this wild thing we called the web. The web was never truly democratic, of course, but those early days did have a sense of openness and humanness that was apparent in its incompleteness. Whenever we advertised that the current reality was soon to change, we were drawing attention to the fact that we were all working on figuring out what this could become.

I might've been a nobody queer kid living on farmland in coal country. But when I got online, I was participating in building some corner of this wild thing we called the web. The web was never truly democratic, of course, but those early days did have a sense of openness and humanness that was apparent in its incompleteness.

As with a lot of things on the web, GIFs were everywhere until the moment they weren't.

In 1999, patent and royalty controversies around the algorithm that made GIFs possible spilled over into a real-world campaign to burn floppy disks that contained GIF files outside the headquarters of a tech company in California. 1999's Burn All GIFs Day may have focused on obscure intellectual property law: *The Atlantic* magazine reported that year that "Burn All GIFs Day may be the first time in human history that anyone has ever thought it worthwhile to stage an organized political protest, even a small one, over a mathematical algorithm."[249] But it was a proverbial canary in this digital coal mine.

As connection speeds increased and web 2.0 shifted toward a glossier and more sanitized user experience, early web GIFs faded into obscurity—looking as dated as the candy-like iMacs and the much clunkier but still colorful HP tower computer my family had.

Even so, GIFs would not die. While the file format itself may have faded into obscurity, video file formats that mimic the repeating nature of the original GIFs became somewhat incorrectly dubbed "GIFs" and embedded firmly in the meme stylings of Tumblr, Facebook, and soon every messaging app on the planet.

Today, the Internet doesn't feel like a single place in our lives. The

idea of having a designated space in your home where you engage with the digital world is old-fashioned. “I miss the computer room,”[250] culture writer Kyle Raymond Fitzpatrick eulogized earlier this year in a cool short essay in their newsletter, *The Trend Report*. Many of us do our day jobs on laptops, are programmed to repeatedly check the notifications on our “phones”—which we primarily use to connect to Internet-enabled services rather than actually *phone* anyone—and if not that, we’re on our iPads or glancing at our smart watches. By referring to an era of the Internet when it was accessible only through designated corners of our physical lives, I’m showing my age—and also drawing attention to how quickly digital culture evolves as the technology fueling it changes.

Early GIFs off GeoCities websites are really only accessible thanks to the work of the Internet Archive’s Wayback Machine and the GifCities search engine that the Archive launched in 2016 in commemoration of its 20th anniversary. That, to me, underscores a fact about the modern Internet that we take for granted: with 5G common, including in many subway tunnels, and Wi-Fi in some jurisdictions a publicly funded utility freely accessible in certain cities’ streets, the Internet can seem like the air around us.

But the Internet isn’t invisible. It’s a very physical thing encompassing mind-boggling maps of wires and undersea cables, and networks including countless privately owned and operated data centers—and in this current era of the web, where so-called “artificial intelligence” is causing an uptick in the environmental and human impacts of this technological infrastructure, it’s good to be reminded of the physicality of the digital world.

When somebody flips off the servers, as GeoCities did when it shuttered in the late 2000s, the world risks losing all artifacts of that culture if they’re not preserved. GIFs that seemed like they’d dance forever simply disappear—for example, if the only copy of the file existed on a floppy disk that was, say, burned in 1999.

This is, after all, the ephemeral truth of the Internet: if you don't save it, even if it seems like it's everywhere momentarily, it will just as quickly disappear.

When we preserve digital culture that would otherwise vanish, we don't necessarily gain the keys to a richer creative future. Again, the web has largely moved on from early GIFs. I'll be the first to admit that we don't become more virtuous by being enthusiasts of outdated image types (in the same way that listening to music on vinyl records doesn't necessarily make you cooler or a more conscious listener).

But when we preserve and revisit the remnants of digital culture's recent history, it behooves us to remember that this networked realm, as imperfect and as frustrating as it can feel sometimes, is what we make it. And maybe if we realize that, we can start to again play a more active role in shaping a better collective future that many of us want. In the meantime, the GifCities database of millions of GIFs provides plenty of entertaining throwback material for your browsing pleasure. Heck, maybe it'll even inspire your own GifCities-themed website, as it did with my recent website update. (I spoke to Chris Freeland, the Director of the Internet Archive's Library Services, about it earlier this year.[251] Yeah, it obviously features the bubble-gum blowing Furby.)

About the Author

JD Shadel is an Appalachian writer and editor, now based in

London. Their work covers lifestyle and tech — often focusing on trends where the online and the offline worlds seem to blur. Before moving to the United Kingdom, they were based in Portland, Ore. for nearly a decade, where they freelanced widely as an editor and were *The Washington Post* writer for one of the nation's most consciously "weird" cities. Beyond their writing for The Post, Shadel launched the Future of Travel column for *Condé Nast Traveler* in 2023; is editor-at-large at Good On You; and has contributed to VICE, BBC News, Them, Bloomberg CityLab and other outlets. VICE editors named Shadel's long-form reporting on the Gay and Lesbian Kingdom of the Coral Sea Islands among the Best of 2017. They completed their MA with Distinction in international relations at the University of Exeter in southwest England.

Preserving the Library System

by Brewster Kahle

At home I had a couple of shelves of treasured kid's books while my parents had walls coated with books. The books and periodicals of my writer and publisher grandfather were on a special bookshelf in the room next to the kitchen—maybe not consulted often but proudly protected and displayed. But the delight of first going to the White Plains Public Library is indelibly imprinted in my mind—the book shelves seemed to go on forever. There was book after book after Alice in Wonderland in the card catalog and books about mathematical recreations I could not imagine finding anywhere else. And I still remember the librarian saying "you can read any of these books you want, and if we don't have the one you want, we can get it for you [through the magic of interlibrary loan]." And this was all for free, which was the only thing that worked for a child. And available to everyone that could get their bones through that door of that magic place.

As a child I did not know how special libraries were—I thought it was just how society worked—I thought there always were and always will be public libraries. I did not realize how fragile this system was until I became a librarian in order to make this promise come true for the next generation, a generation of digital learners. I did not think that in my lifetime this offer, this seeming human right, would be threatened by the people that made the fantasy-land of the White Plains Public Library possible: the corporate publishers.

Based on a simple but catastrophic business decision, the big publishers are making it impossible for libraries to do their core functions of preservation and enduring access in the digital era. Netflix, for instance, recently changed their terms of service to explicitly prohibit archiving therefore allowing them to remove or change any movie for all subscribers at once. The decision of the big publishers that is so threatening to the mission of libraries is to stop selling their products. Their books, music, and videos—as the world moves digital—are only available for temporary access by library patrons from databases the publishers control.

At the dawn of the Internet age, we dreamed of a different future, a future where authors got paid for their work, where published works would find their natural audience, where small publishers would flourish supporting a wider range of authors, where new publications and services would democratize production and access to information. The Internet could have been used to create this future, and many of us have worked hard to make it come true, but the lack of antitrust enforcement led to rapid consolidation of publishers, Internet technologies allowed successful online publishers to become dominant worldwide, and an advertisement model that made for very few commercial winners. This toxic brew of collapse of independent publishers and limited commercial distribution channels have made the decentralized Internet seem like a lost opportunity.

Libraries in the United States are under attack through book bannings, defundings, increasing criminalization of librarianship, licensing restrictions, and a judiciary that is steadily siding with publishers. This is a long way from a century ago when the United States led in libraries with the Carnegie libraries—supported by legislatures and judiciary—helping create an educated citizenry ready for a country entering the world stage.

But there is hope for libraries and a public seeking alternatives to the flood of disinformation and promoted materials coming from the online and offline information producers. Libraries are still funded and staffed with smart caring professionals. Readers are

becoming more media aware and discerning. And best of all, people are still free to create and publish quality works with the remaining distribution and compensation structures. It is still possible to have a game with many winners, but maybe this window is closing.

To preserve the library system's ability to help create an informed citizenry, we need libraries to buy, preserve, and offer free public access to the broad public.

To preserve the library system's ability to help create an informed citizenry, we need libraries to buy, preserve, and offer free public access to the broad public. Our libraries have traditionally supported local authors and local publishers, preserved a broad range of text, audio, and moving image materials. Libraries, when not stopped, have moved with the times, through microfilm and CD ROMs, and now to the Internet in order to provide preservation and access. Our collective budgets in the United States support 20% of the trade publishing revenues—enough to cause a leveraged buyout firm, KKR, to find buying major publisher Simon and Shuster a good investment. Our libraries are a captive market for a shrinking number of academic and trade publishers.

Best case is the large publishers see the value in selling their digital products through multiple marketplaces. Next best is independent publishers sell to libraries and libraries become eager to buy, preserve, and lend their own collections. Authors, musicians, filmmakers and creators of all kinds could choose publishers and websites that sell to libraries.

Our evolving digital age can be our next Carnegie moment or it can be a Library of Alexandria moment. It is up to us.

About the Author

Brewster Kahle is an American digital librarian, computer engineer, Internet entrepreneur, and advocate of universal access to all knowledge.

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Questions for Further Research

The scope of cultural loss, both physical and digital, remains largely unquantified. More research is needed to fully understand the extent of vanishing media from our library shelves, the open web, and digital platforms. Below are some key directions for future study:

Physical Media

- What analog media formats are most at risk of unintended deterioration or intentional destruction?
- What percentage of that material has already been digitized, and what barriers (financial, legal, technical) exist to its digitization?
- How do different institutions prioritize preservation efforts, and what models can be developed to support broader, coordinated action?

User-Generated Media

- What options do individuals and memory institutions have

for collecting and preserving culture currently housed in blogs, social media, and other digital platforms?

- What barriers exist to prevent cultural loss as a result of corporate decisions to remove or destroy content, or simply because these entities go out of business?

- What technical and legal frameworks are needed to promote long-term access to user-generated content on platforms like YouTube, Instagram, and TikTok?

Digital Platforms and Preservation

- What barriers prevent companies, particularly those hosting user-generated content, from making their content available to memory institutions?

- How can researchers gain access to the vast amount of cultural content at risk on digital platforms, and what legal mechanisms are necessary to support this access?

- How do platforms that distribute professional content differ from those housing user-generated content, and how can we account for these differences in preservation strategies?

Scope of the Problem

- How can we better quantify the extent of cultural loss, and what qualitative studies are needed to capture the cultural significance of what has disappeared or is at risk?

- What social and technical solutions can be deployed to

ensure that irreplaceable cultural content does not vanish forever?

Share Your Story:

In assembling the Vanishing Culture report, we've learned that practically everyone has a story of media preservation and loss. Want to share yours? Give us your pitch for a ~1,500 word essay using our online form.